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A statement prepared for presentation to Parliament

With the compliments of the Director of Public Information, Home Department, Government of India.

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1937

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PREFATORY NOTE.

This report, which has been prepared for presentation to Parliament, is issued by the Bureau of Public Information, Government of India, under the authority and with the general approval of the Secretary of State for India; but it must not be understood that the approval either of the Secretary of State or of the Government of India extends to every particular expression of opinion.

The report has again been written in the abbreviated form adopted for the last three issues, the descriptive and explanatory passages which previously served to introduce the subject matter having been curtailed or omitted. The chapter on the Provinces has again been left out in order to keep down the size of the volume; but full information is available in the provincial administration and departmental reports.

It should be explained that though the report as a whole covers the financial year 1934-35, the chapter on Politics and Administration relates to the calendar year 1935.

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CHAPTER I.

Agriculture and Industry.

Agriculture.

As India is essentially an agricultural country, her position and progress in agricultural matters is of vital importance to her. It is therefore most satisfactory to find that, thanks mainly to the fostering care and expert guidance of the Imperial Council of Agricultural Research, which owes its being to the Royal Commission on Agriculture, the year under review was one of steady if unostentatious progress in this sphere, despite continuing trade depression and financial stringency. The advance made was not so much in the area under cultivation or in crop production (both of which indeed decreased in certain instances) as in investigation, research and working methods. As evidence of this we may mention that, according to the reports of provincial Agricultural Departments, the production and distribution of seeds of higher quality again occupied a prominent place in the activities of most provinces. This was the result of more intensive propaganda as to the necessity for improved tillage and the use of manures to maintain the advantage gained from the introduction of good-quality seeds.

Statistics.

According to the latest information available, the total area of India as computed for purposes of agricultural survey was* 1,162 million acres, some† 668 millions of these being British India. Land not available for cultivation, *i.e.*, barren, unculturable or covered by water, roads and buildings, amounted to nearly 145 million acres, while slightly more than 89 million acres were under forest. Of the remainder, culturable waste (*i.e.*, lands which had never been cultivated or had been abandoned) accounted for 154¼ million acres and fallows for another 52⅓ million. The net area sown with crops in British India in 1934-35 was nearly 227 million acres (about 5 million acres less than in the previous year), of which 50½ million acres were irrigated. If lands which carried more than one crop during the year are taken as separate areas, the total area sown was 259 million acres, a decrease of 8 million acres from 1933-34. Food

*Agricultural Statistics of India, 1933-34, Vol. I.

†British India Agricultural Statistics, 1934-35 (Provisional).

crops occupied 213 million acres and other crops 46½ million acres. Food grains (*i.e.*, cereals and pulses) took up 201 million acres, or 78 *per cent* of the sown area, and other food crops (including sugar, spices, fruits and vegetables), 12 million acres or 5 *per cent* of the total. Of the non-food crops, oilseeds occupied nearly 14½ million acres and fibre crops 17½ million acres.

Some Provincial Problems.

In certain areas, notably Sind, problems arising from irrigation are of major importance to agriculture and local authorities are giving them the attention they deserve. Progress is necessarily slow, owing as much to the need for studying carefully such matters as the nature of the soil and the amount and level of sub-soil water, as to the dislike of change inherent in the average Indian villager. Cultivators in Sind, however, are gradually becoming accustomed to the new conditions of irrigation created by the Lloyd Barrage system. This augurs well for its ultimate and complete success.

Of the particular problems that faced individual provinces, mention may be made of two arising from the Bihar earthquake of 1934. The first of these, which was referred to in last year's report, was the disposal of the extensive sugarcane crop left standing in the fields owing to several large sugar factories in the province having been put out of action by the earthquake. As last year's report described the measures adopted to solve this problem, no further remarks are called for here. The second problem, also mentioned in last year's report, related to the regeneration of cultivated lands affected by sand deposits. In addition to the clearance demonstrations mentioned last year, large quantities of *sann* (*Crotolaria juncea*) and *dhaincha* (*Sesbania aculeata*) were purchased and distributed to cultivators, who were instructed in the proper method of growing and ploughing in these green manure crops. The results were quite satisfactory.

Rice.

Rice is the most important single crop in India. The area under rice in 1934-35 was 82 million acres and the yield, 30,261,000 tons, or about one million acres and half a million tons less than in the previous year. Exports of rice and paddy amounted to 1,607,000 tons. As India proper habitually consumes more rice than she produces, it was again necessary to draw on other countries for supplies. During 1934-35 imports of rice and paddy from Burma amounted to 1,978,000 tons and 222,000 tons respectively; and from foreign countries to 282,000 tons and 112,000 tons respectively.

Schemes of research on rice, financed by the Imperial Council of Agricultural Research but administered by the local Departments of Agriculture, were in progress in all the important rice-growing provinces. In Burma, the chief of these, progress was sustained in the production and dissemination of new strains of paddy and a great deal of useful research and experimentation were carried out in connection with breeding in particular. Three pure strains of "Emata" mentioned in former reports are now being widely cultivated in Lower Burma and marketed successfully in Europe and Canada in competition with American rices. This is an encouraging development and shows the importance of research. Critical tests of selected varieties of rice were continued in Bengal and several foreign types were introduced from Spain, Italy, America and north India. In Bihār and Orissa attempts to break the "dormancy" in the seed of several varieties of paddy by means of chemical treatment met with some success. Another investigation of great practical value which has been in progress for the last two years, *viz.*, inducing certain varieties of paddy to grow under saline conditions by treating the seed with minute doses of common salt, gave definite indications of success. Methods to evolve a 'blast' resistant variety of rice were successful in Madras and two hybrid strains from the cross G. E. B. 24 with *Korangu samba* have proved resistant to piricularia disease and given over 20 *per cent* increase in comparison with the control. In Assam, cross-breeding work was in extensive progress and six hybrids, whose yields are distinctly superior to the local standard, were being compared on a statistical basis. In addition to plant-breeding, cultural studies on the effect of spacing, variety and age at the time of transplanting were in hand. Work at the Nagina Rice Research station in the United Provinces made good progress. The station turned out some very valuable early paddies and also a good late type, all of which are gaining marked popularity in the areas to which they are suited.

Wheat.

During 1934-35 the area under wheat was 34½ million acres and the estimated production, 9,725,000 tons, compared with 36 million acres and 9,424,000* tons in 1933-34. Decreases in area

*In this and other instances in which the figures in the present report do not agree with those in previous ones, the changes are due to more accurate information having become available after the earlier reports were published.

occurred principally in the Punjab (from 11,292,000 acres to 10,483,000 acres) and the United Provinces (from 8,580,000 acres to 7,671,000 acres). In spite of the fall in area in the Punjab, the yield there increased by 245,000 tons. In the United Provinces the yield in 1934-35 was practically the same as in the previous year despite the reduction in acreage. Details of the area under improved varieties of wheat were not available at the time of writing, but it is evident from the reports of provincial Departments of Agriculture that there has been a steady improvement in this respect. In the Punjab, the established Punjab 8A lost its pre-eminence to a new species (C. 518) and many thousands of acres in the province have already been sown with the latter. Another new wheat (C. 591) proved equal in yielding power to Punjab 8A and is already being grown on a commercial scale in several centres in the province. Extensive tests on several varieties of wheat carried out in Sind showed that under local conditions Punjab 8A is the heaviest yielder; but Pusa 114 seems the most suitable type for those conditions. It is decidedly superior in quality to other varieties and has proved more resistant to rust than the Sind and Punjab wheats. At Pusa and the botanical sub-station at Karnal, the testing of hybrids produced by crossing some of the old Pusa wheats with the Australian "Federation" variety was continued and new strains of considerable promise were obtained. But the most important event of the year remains to be mentioned. The cereal rust research work at Agra and Simla, which is financed by the Imperial Council of Agricultural Research, reached a stage at which it was possible to utilise the results obtained for the breeding of rust-resistant wheats. A start with the production of such wheats was made at Simla, where selected parents, known to be rust-resistant, were crossed. It is probable that the hill areas are the foci of infection, from which the disease reaches the plains, and that if these areas could be provided with rust-resisting wheats, the problem of rust-resistance in India would be largely solved.

Barley.

Investigations on barley were commenced at Pusa some years ago and have also been carried out more recently in Bihar and the Punjab. During the year under review, reports on the malting and brewing tests and valuations of the experimental barleys shipped to England in 1933-34 from Pusa, Sabour, Cawnpore and Lyallpur were received from the Institute of Brewing, London. Several of the

Bihar barleys were reported to be really promising. With one exception, the ten United Provinces barleys sent proved to be of very good quality, malting easily and brewing well. They are said to have good prospects in the English market. Although the six samples from Lyallpur did not compare favourably with the other Indian barleys in appearance, they were found to constitute good malting and brewing material. Further tests are being made on samples from the 1934-35 crop in order to determine which types should be selected for distribution.

Pulses.

These food grains cover about 42 million acres and are valuable as providing a supply of nitrogen for the soil and thus keeping it fertile. Gram (*Cicer arietinum*) and *arhar* (*Cajanus Indicus*) are the two most important; but *urid, mung,* lentils and *keshari* are only slightly less so. Research on gram has been in progress at Pusa for many years and the results are being used to improve output. In the Central Provinces, investigations into the production of wilt-resisting forms met with a large measure of success and one variety of high yielding power and resistance was released for distribution.

Millets.

The principal millets, *viz., juar, bajra* and *ragi,* occupied 39 million acres in British India during the year under review. In Madras, further progress was made in the isolation of new strains of Sorghum; while *ragi* (*Eleusine coracana*) and *korra* (*Setaria italica*) were both the subject of continued investigation. In Bombay, the *juar* (Sorghum) crop received considerable attention especially with regard to water requirements in connection with dry-farming schemes. A considerable amount of improved *juar* seed was distributed in the Presidency during the year. Several of the millets, including *juar,* are attacked by striga, a green semi-parasite belonging to the *Scrophulariaceae,* and the life history of this pest is being studied with a view to introducing control measures. In the Central Provinces, the area under improved types of *juar* was about 150,000 acres.

Sugarcane.

None of India's agricultural activities have made greater strides in recent years than sugarcane growing (with its allied industry of sugar manufacture). Development has been rapid, even remarkable, and is due partly to the raising of the import duty on sugar in 1931 and partly to the Sugar Industry (Protection) Act, 1932, but mainly to the superior varieties of cane bred at Coimbatore, which have been

introduced increasingly into the cane-growing provinces of northern India. The actual extent of the advance can best be gauged from the following figures. The total area under sugarcane rose from some 2½ million acres in 1929-30 to nearly 3 million acres in 1931-32, 3.3 million acres in 1933-34 and 3.47 million acres in 1934-35, the acreage under improved crops in the year last mentioned being 2.45 millions or 71 *per cent* of the whole, as against 69 *per cent* in 1933-34, 56 *per cent* in 1932-33 and 39 *per cent* in 1931-32. The outturn of *gur* (raw sugar) increased from 3,970,000 tons in 1931-32 to 5,109,000 tons (estimated) in 1934-35. Sugar produced direct from cane in modern factories (the number of which rose from 30 in 1929-30 to 130 in 1934-35) amounted to 578,000 tons (estimated) in 1934-35 or over three times the quantity (158,581 tons) so produced in 1931-32. In addition, some 40,000 tons of sugar were refined from *gur*. Including *khandsari* sugar, which amounted to 150,000 tons, the total yield for the year under review was estimated at 768,000 tons or 289,880 tons more than in 1931-32. Concurrently with this increase in home production there has been a steady decline in imports.

Another step in the fostering of the sugarcane industry was taken in April 1934 with the passing of the Sugarcane Act. The scope of this measure was explained in last year's report. Recognising the need for better organisation of the cane supply, the Government of India have, as stated last year, undertaken to set aside annually a sum equal to one anna *per* cwt. of the sugar which pays excise, for distribution to sugarcane-growing provinces. This money is to be spent on accepted schemes for the supply of cane, several of which have already been approved by the Government of India.

The cane crop in the United Provinces, which is one of the most important local money crops, was distinctly variable both in yield and in quality during the year under review. On the whole the season was bad and the climax was reached in January 1935, when a particularly severe cold wave swept the province and caused a good deal of damage to cane. But with a view to maintaining a high yielding crop of good quality, the local Department of Agriculture carried out intensive propaganda on improved methods of cultivation in the areas served by tube wells and a higher standard of cane was thus secured by the ordinary cultivator. A

great deal of research work on sugarcane was also done during the year under report. At Coimbatore, the principal centre of research in breeding, the chief development was the commencement of cytological investigations on sugarcane, several wild species of *saccharum* and the sugarcane-sorghum hybrids. This work is financed by the Imperial Council of Agricultural Research and has already yielded interesting results. Researches into the "mosaic" disease of sugarcane, also financed by the Imperial Council of Agricultural Research, were continued in the Mycological Laboratory at Pusa. The dominant problem in sugarcane during the last two years has been the steadily increasing damage caused by insect pests. In the year under review, the loss due to pyrilla and top-borer in the western districts of the United Provinces was very heavy. This problem engaged the attention of the Imperial Council of Agricultural Research, which made a grant for a special investigation on these pests and the methods of combating them; and work was commenced at the Imperial Institute of Agricultural Research. Useful research work, financed by the Imperial Council of Agricultural Research, was again carried out in the stations at Shahjahanpur, Muzaffarnagar, Mushari (Bihar and Orissa) and Padegaon (Bombay).

Cotton.

Of crops other than food crops, cotton is by far the most important. This crop occupied 23.83 million acres in 1934-35, compared with 24.14 million acres in 1933-34. The area under cotton has thus been practically constant for the last three years. Production was estimated at 4,807,000 bales in 1934-35, as against 5,068,000 bales in 1933-34. The world's mill consumption of Indian cotton rose to 5,599,000 bales, an increase of a million bales over the 1933-34 consumption. These figures do not include consumption in Germany, which is usually about 200,000 bales.

The Indian Central Cotton Committee completed another year of useful work and steady progress. Its efforts were directed chiefly to the replacement of short-staple cottons by long or medium staple strains and to the protection of areas growing superior cotton from the importation of inferior varieties for purposes of adulteration or substitution. The Committee also took steps to secure the elimination, by local legislation of two varieties of inferior cotton, namely, *Garrow Hill* in the Central Provinces and Berar and *Goghari* in the Surat tract, which constituted a menace to the

superior varieties with an established reputation grown in these areas. In the case of *Goghari,* legislation on the lines recommended by the Committee was passed by the Bombay Legislative Council. Though the advantages of regulated cotton markets are generally recognised all over India, progress in the establishment of such markets has not been as rapid as might have been expected. So far only 3 markets, one each at Dhulia, Amalner and Bail Hongal, have been notified under the Bombay Cotton Markets Act. But there appears to be some demand for similar markets at Malegaon, Baramati and Dharwar; while in Surat, Broach and Bijapur the question of opening such markets was receiving fresh attention. The Committee continued to take keen interest in research, particularly the investigation of certain specific cotton problems of economic importance and the extension and marketing of improved types of cotton, and made grants in furtherance of these objects. The work at the Technological Laboratory at Matunga increased so much that it became necessary to instal more machines and testing apparatus and to strengthen the staff. This is distinctly encouraging. An investigation of considerable importance undertaken during the year consisted in ascertaining the effect of storage of cottons in open plinths and in sheds at Karachi. The results showed that cotton stored in the Thole yards definitely suffered both in grade and spinning quality. The Indore Institute of Plant Industry, which is the centre of research for the black cotton soils area of the Malwa plateau in Central India, made excellent all-round progress, particularly in the distribution of *desi* cottons (*Malvi* 1 and *Malvi* 9) which are superior in yield, ginning percentage and spinning performance to the local variety. Conspicuous advance was likewise registered in the manufacture of 'Compost' from cane trash during the dry weather, and from molasses. Not the least important aspect of the activities of the Institute was its propaganda and extension work in the Central India States. The Publicity Branch of the Indian Central Cotton Committee again did excellent work. The intimate co-operation maintained between the Committee on the one hand and provincial Departments of Agriculture on the other, was widened and deepened, thus opening the way to further advance. The most outstanding feature of the year's activities was the special campaign conducted in the United Provinces, at the invitation of the local

Government, for the extension of measures to control the pink boll-worm pest, which in one year caused a loss of nearly $2\frac{1}{2}$ crores of rupees to the cotton crop in the province. Notable in the statistical sphere was the Committee's scheme for the improvement of cotton forecasts of the Bombay Presidency, which brought to light several sources of error in the compilation of these forecasts.

Jute.

In 1934-35 the area under jute was 1,947,000 acres and the production, 6,372,000 bales. The latter is approximately half that of the boom years between 1926 and 1931. The reduction in acreage may be attributed partly to the intensive campaign for the restriction of the area under jute and partly to the unfavourable weather conditions at sowing time. But cultivators did not suffer to any great extent. Much was done, both officially and otherwise, to help them to introduce substitute crops in the areas released by jute. During the year under review a careful comparison was made of the quality of the types of jute produced by the Department of Agriculture, Bengal, and that of the local strains. As a result, the variety D. 154, which has been distributed by the Department of Agriculture for the last ten years, was placed first and is considered equal in quality to *Fanduk*, which has always been held to produce the finest fibre on the market. D. 154 has the further advantage of being much heavier in yield than *Fanduk*. Exports of jute in 1934-35 totalled 752,000 tons—a quantity practically equal to that of the previous year. The exports of manufactured jute were valued at Rs. 21,47 lakhs, which again shows only a small divergence (Rs. 10 lakhs) from the previous year's figure.

Hemp.

Exports of *sann* hemp during 1934-35 amounted to 437,000 cwt. or 49,000 cwt. more than in the previous year. Research on this crop is progressing in the United Provinces and the Central Provinces and at Pusa.

Tobacco.

The acreage under tobacco in 1934-35 was estimated at 1.35 millions and the production at 1,503 million lbs. In both respects, the position was better than in the previous year, but exports fell to 27.4 million lbs., *i.e.*, by 2.6 million lbs., the quantity exported to the United Kingdom (9.3 million lbs.) being 4 million lbs. less than in 1933-34. The production of flue-cured tobacco suitable for cigarettes continued to be the most important aspect of the trade in India. An organised scheme of research in all the provinces is being set up by the Imperial Council of Agricultural Research with

the object of improving further the quality of the cigarette leaf produced in the country and a central tobacco research station under the control of the Imperial Institute of Agricultural Research is to be established in the Guntur district, in which this industry has been most successful. Research on the problems of cigarette tobacco has been in progress at Pusa since 1925 and in more recent years the Bombay Department of Agriculture has taken up the subject at its tobacco station at Nadiad.

Oilseeds.

The total area under the chief oilseeds (groundnuts, linseed, rape, mustard, sesamum and castor) was 21.1 million acres—a fall of 4.2 million acres from the previous year. The estimated yield too (3,695,000 tons) was considerably less than that (5.3 million tons) of 1933-34. If areas occupied by cocoanuts and the minor oilseeds are included, the total oilseed acreage in 1934-35 amounts to about 24.3 millions. Groundnuts continued to form an important and expanding crop in Madras, Bombay, the Central Provinces and in the States of Hyderabad and Mysore. The prices of groundnuts showed a marked upward trend during 1934-35, the highest level touched being Rs. 41-8-0 *per* candy in January 1935. Exports of groundnut oil amounted to 275,000 gallons, a very considerable fall from the 716,000 gallons of the previous year.

Research Work on Soils and Fertilisers.

Further progress was made with the genetical survey of the sugarcane soils of the Bombay Deccan and the rice soils of the Central Provinces; while the Irrigation Research Laboratory in the Punjab continued its work on the reclamation of alkali soils. The working of the Lloyd (Sukkur) Barrage canals has shown conclusively that the major problems to be dealt with in the Barrage areas relate to soil management under conditions of perennial irrigation. A scheme for the more intensive investigation of this question is before the Imperial Council of Agricultural Research. Of the soil problems in Sind, the reclamation of alkali lands is one of the most important, and experiments indicate that its solution lies in a combination of mechanical and agronomic methods. Investigations on the use of fertilisers with important crops were in progress in all provinces, and experience has shown that artificial fertilisers are definitely beneficial to certain crops, such as paddy and sugarcane. Extensive experiments were proceeding in the United Provinces, at Pusa and in other places with the object of discovering the best manurial

treatment for sugarcane. It has been established in the United Provinces that molasses can be used as manure with advantage, provided it is applied two to four months before sowing. This suggests a profitable method by which sugarcane factories can dispose of their molasses. The increasing use of artificial fertilisers in India has brought to light the necessity for legislation to protect cultivators from the supply of fertilisers of inferior quality. This matter is engaging the attention of Government.

Demonstration and Propaganda.

If the Indian cultivator is to get the best return from his fields and crops, it is essential that he should abandon his antiquated methods and follow modern practice. There is no better way of inducing him to do so than to show him the results of applying up-to-date knowledge and methods, for " seeing is believing ". On this account, demonstration and propaganda form a most important part of the functions of provincial Departments of Agriculture. Broadly speaking, this work consists in the introduction of new seeds, the demonstration of improved methods and implements, the control of pests and diseases and the holding of shows and exhibitions. The results of this campaign have been most gratifying. The year under review saw a marked increase in the number of demonstration farms and plots, use of good-quality seeds and purchase of better implements in almost every province. In the Central Provinces in particular, the distribution of improved seeds assumed very large proportions, being as much as 430,000 maunds of wheat, rice, cotton, *juar*, groundnut and *til*. An innovation was the erection of exhibition cases at railway stations and District Officers' headquarters in the United Provinces. This formed a useful method of propaganda and resulted in a number of enquiries and requests for assistance. Special funds were provided in Sind for the development of agricultural propaganda and the district staffs were considerably enlarged and specially trained for this purpose. Six auxiliary demonstration farms have been started in the Barrage area. Their influence was manifested in the automatic adoption of improved methods of cultivation by neighbouring *zemindars*. All this shows that much is to be hoped for from sustained and persistent effort in propaganda.

Agricultural Marketing.

An event of prime importance to India's future as a producing country, and therefore to the welfare of her rural population also, was the big forward step in the matter of agricultural marketing

taken during the year under review. Such arrangements as existed formerly for the sale of agricultural produce were largely ineffective and resulted in both waste of commodities and loss to the grower. The Royal Commission on Agriculture in India and the Central Banking Enquiry Committee drew attention to these defects and suggested measures for their removal. The former recommended market surveys and the appointment of expert marketing officers in the provinces. The latter pointed out the need for some central agency to advise provincial organisations and assist in co-ordinating provincial activities, particularly in the case of agricultural produce intended for export, and recommended that this task should be undertaken by the Imperial Council of Agricultural Research. Little, however, could actually be done owing to the financial stringency that supervened. But by the beginning of 1934, the position had improved sufficiently to enable the question to be discussed at the provincial Economic Conference in April of that year. The Conference was of opinion that of all practicable measures for improving economic conditions, intensive development of marketing facilities for agricultural products (both crops and livestock) offered the best prospects of substantial return. The Government of India decided that the recommendations of the Conference should be given effect to immediately in accordance with a scheme prepared by the Marketing Expert Adviser to the Imperial Council of Agricultural Research. Broadly speaking, the scheme provides for a central marketing staff to deal with the planning, direction and interpretation of marketing surveys, supplemented by provincial marketing staffs concerned mainly with the local aspects of marketing. A strong central organisation consisting of the Agricultural Marketing Adviser, 3 Senior Marketing Officers, 3 Marketing Officers and 12 Assistant Marketing Officers, has been created. In addition, there were 47 Marketing Officers in the British provinces and minor administrations and 36 in the Indian States. It is both pleasing and significant that many of the States offered, on their own initiative, to appoint local officers to co-operate with the central marketing staff. The Government of India also agreed to make a grant of Rs. 2 lakhs *per annum* for 5 years for expenditure by local Governments on the nucleus of provincial marketing staffs. The work to be undertaken falls into three main divisions, *viz.*, investigation, development, and grade standards.

Certain general questions are also included within the scope of investigation, *e.g.*, regulated markets, marketing organisation and the problems of transportation, storage and preservation. Detailed programmes of the work to be done under each head have been prepared and substantial benefits are expected to accrue from them. A conference between the central marketing staff and the Senior Marketing Officers of the provinces and States was held at Delhi in March 1935 to arrange a common programme of actual work. It was decided to complete, in the first year, survey work on wheat, rice, linseed, groundnuts, tobacco, fruits, milk, eggs, livestock, and hides and skins, and to deal with other products later. Soon after the conference, a start was made in all the provinces and most of the States with marketing surveys on the lines agreed upon.

Agricultural Education.

The post-graduate classes at the Imperial Institute of Agricultural Research were continued during the year under review in spite of the dislocation caused by the earthquake of January 1934. Thirteen new students were admitted and ten students left after completing the full two-year course. Since the commencement of these courses in 1923, 77 students have been admitted and 48 have completed their training. Of the latter about 87 *per cent* are employed in Government Agricultural Departments or under schemes of research financed by the Imperial Council of Agricultural Research. The post-graduate training at Pusa is therefore filling a real need. A special short course in tobacco culture and flue-curing of tobacco was held during the year and was attended by 10 students. The Burma Agricultural College again remained closed throughout the year, but two farm schools attended by 22 students were maintained. The remaining provincial agricultural colleges and schools continued to do useful work. The school at Bulandshahr in the United Provinces served also as a training centre for 60 village school teachers and 22 cane-supervisors and had 60 men under training for the rural development scheme recently sanctioned by the local Government. At the Poona Agricultural College, 85 students were admitted during the year under review—an increase of nearly 50 *per cent* on the number admitted in the previous year. Sugar factories in the Deccan appreciate the good work of agricultural graduates and as many as 45 graduates of the Poona College are employed in them. A feature of the year's work in several colleges was the short courses on special subjects, *e.g.*, fruit-culture, land

development and irrigation farming in the South Central Division of the Bombay Presidency and farm management in the Madras Presidency.

Imperial Council of Agricultural Research.

The Imperial Council of Agricultural Research, the constitution and functions of which have been explained in previous reports, again did a very useful year's work. The grants for agricultural research made to it by the Government of India amounted to Rs. 8,16,000 and a further sum of Rs. 4,16,000 was allotted for the establishment of a Central Dairy Institute. In addition to financing many schemes of research in the provinces and States, the Council continued to provide for research, under its direct control, on sugar technology and the biology of the desert locust. It also maintained a statistical, or to be more precise, a biometrical, section which has been of great assistance in the designing of agricultural experiments all over India. The Council renewed its grants to the Karnal Botanical and Sugarcane stations of the Imperial Department of Agriculture and to the agricultural meteorology branch of the Indian Meteorological Department. During the year under review, a scheme for potato research in northern India was started and co-operative experiments at stations in the hills were carried out with the object of determining the best location for a potato-breeding station. The results indicate that Chaubattia and Simla offer the most desirable sites. A start in the study of potato-breeding was made in Simla. Considerable progress took place in the dry-farming schemes of investigation financed by the Council in Madras, Bombay and Hyderabad. The object of this group of investigations is to devise improved methods of soil management and to breed and introduce drought-resistant strains of important crops in order that crop production in regions of scanty and precarious rainfall may be less of a gamble than at present. The value of these experiments to a country which contains large tracts of dry and ill-watered land is self-evident. The second year of the enquiry into the cost of production of crops in the principal sugarcane and cotton-growing areas financed jointly by the Imperial Council of Agricultural Research and the Indian Central Cotton Committee was completed. The corrected data for the first year are now being received and compiled and these, together with the result of the second year's working, will be put before the next meeting of the Joint Committee. The schemes of research on tobacco and sugarcane financed by the Imperial Council of Agri-

cultural Research have been alluded to in earlier paragraphs, but mention must be made here of the fact that the Sugar Committee approved the starting of a Bureau of Sugar Standards under the Sugar Technologist, whose services were in demand for a variety of purposes. The Imperial Council of Agricultural Research also met the cost of one delegate from India to the third International Soil Science Congress, which was held in Oxford in July-August 1935 and attended by ten research workers from India. The Council continued to publish the bi-monthlies "Agriculture and Livestock in India" and "Indian Journal of Agricultural Science" and the quarterly "Indian Journal of Veterinary Science and Animal Husbandry". Three scientific monographs and certain other papers were also issued during the year.

Imperial Institute of Agricultural Research.

Mention was made last year of the destruction of the central research laboratory at Pusa and the decision to rebuild it in Delhi. It was also stated that work had been commenced on the new site. During the year under review considerable progress was made towards the completion of the new building. It is situated about four miles from the Secretariat in New Delhi and it is hoped that it will be complete shortly. Work on the agricultural land here was commenced in June 1935 and a rough lay-out of the fields was to have been finished by April 1937.

Veterinary Activities. Research.

During the year under review rinderpest, as usual, claimed most of the attention of those engaged in veterinary research. The position achieved in the control of this disease, as explained in previous reports, was fully maintained. In fact, given the necessary staff in the provinces and States, rinderpest could be brought under control in India at comparatively small cost to public funds. Two types of goat virus are now in use, one made from the animal's blood and the other from its tissues. Although the latter has the advantage of longer viability and consequently a greater radius of application, some provinces still prefer the simpler blood virus. The period of viability, even of the tissue virus, is still not as long as could be desired under hot-weather conditions in the plains; but some provinces situated at a distance from Muktesar have overcome this difficulty by setting up their own virus-producing stations. Two important points established as a result of recent work with these products in the field are that goat virus, in spite of being a live

product, can be used with safety in the face of actual outbreaks of rinderpest and that the immunity conferred by this attenuated virus extends to as much as 20 months. These facts indicate that goat-virus inoculation is to be preferred to the serum-alone method of controlling rinderpest. It is certainly significant that in Madras, where the latter method was discarded several years ago, a considerable fall in the incidence of rinderpest occurred during the year under review. Reports from the provinces, particularly the Punjab, the United Provinces and Bombay, again indicated that the ravages of contagious abortion among horses, cattle and goats result in serious economic loss to the country. It is clear that a special research staff is required to investigate the etiological factors at work and to suggest improved methods of control. A step in this direction was taken by the Research Institute, Muktesar, which initiated an investigation into equine abortion at a horse-breeding stud in the Punjab. The reports received so far indicate that, as a result of the measures adopted on the advice of the Institute, the disease is now well under control. Tuberculosis and Johne's disease, which are often treated together as both are caused by acid-fast organisms, appear to be definitely on the increase. A survey of some herds carried out by the Disease Investigation Officer, Bombay, resulted in a number of positive reactions being obtained by means of the tuberculin test. The equine diseases of strangles and influenza also received a good deal of attention during the year. They constitute a serious menace to the horse-breeding industry and the mounted portion of the Army alike, and with a view to bringing them under better control, the Muktesar Institute collaborated with the military authorities in a series of investigations. *Surra* is another disease to which much attention was devoted. It is due to infection with a protozoan parasite, similar to the trypanosome causing sleeping sickness in man, and usually occurs in horses; but a fatal form of *surra* with very different symptoms is also found in cattle in this country. The Muktesar Institute intensified its activities in connection with this disease, the main object being to identify the parasite in cattle, and if it proves to be *Tr. evansi,* the fatal equine parasite, to determine the conditions necessary to convert a normally innocuous parasite into a virulent one. Reports of the other contagious diseases of cattle (*viz.,* haemorrhagic septicaemia, black-quarter and foot-and-mouth disease) showed that in regard to the first two, the vaccines issued

from the Muktesar Institute were proving satisfactory as control agents, while in some places the use of chlorinated lime in drinking water gave better results than the agents used previously for the control of foot-and-mouth disease. An item of interest to medical workers is that in cases of cutaneous leishmaniasis in bullocks in Assam, the parasites were found to be similar to those of kala-azar in man.

Animal Breeding.

Work on breeding problems continued in all the animal-breeding stations and farms, notably the Hosur Cattle Farm, Madras, and the Cattle Farm at Hissar in the Punjab. Investigations into the causes and treatment of sterility in animals were also in progress at the latter. Improvements in stock are being effected slowly but steadily. Concurrently with the provision of breeding bulls of an approved type must go the castration of scrub animals, otherwise improvement cannot be maintained. It is therefore satisfactory to find that, with the advent of the Burdizzo castrator, this is a process to which the majority of ryots raise no objection. In the Central Provinces alone 1½ lakhs of animals were castrated by this method during the year under report. It may hence be anticipated that if this campaign is continued and extended, a general improvement of stock will soon be visible.

Animal Nutrition.

With regard to nutritional problems the most striking advance made was in connection with blindness in new-born calves, which has been mentioned in previous reports and has until recently been the cause of serious losses to dairymen in the north-western portions of India. With the introduction of different methods of feeding in one of the Military Dairy Farms where this condition was very prevalent, cases have ceased to occur. In order to ascertain the particular factor responsible for the complaint, attempts are being made at Muktesar to produce calves similarly affected by feeding their dams on a diet deficient in vitamin A. As a result of analysis at Muktesar of the food-stuffs of those areas from which the condition known as osteomalacia in cattle has been reported, it was discovered that the ratios of mineral salts in these food-stuffs were defective. The feeding of a mineral supplement to animals, particularly dairy cows, in order to increase their productive capacity, is now generally adopted in this country and has the effect of increasing an animal's resistance to infection with bacterial diseases, such as Johne's disease. Feeding experiments with sheep were also in progress during the year. An

important observation made at Bangalore was that the yield of wool fluctuates according to the nutritional state of the animals, but it was reported from Madras that the wool production of sheep is not affected by feeding with sulphur.

Dairying.

Useful work in dairying went on throughout the year. The systematic selective breeding of indigenous cattle, *viz.*, the Hariana and the Tharparkar breeds at the Imperial Cattle Breeding Farm, Karnal, and the Scindi and the Gir breeds at the Imperial Dairy Institute, Bangalore, was continued. All the breeds showed considerable improvement in type, conformation and performance. Milk testing and experiments in feeding were also undertaken and a number of other items of minor importance were studied. For the proper development of dairying, however, it was decided that, in addition to expansion of the existing Institute at Bangalore, a research station should be established at Anand and specially equipped for industrial research into such problems as the collection and transporting of village milk, the manufacture of products like tinned and condensed milk and improvement of the present methods of butter and *ghee* manufacture. This will enable more rapid advances to be made in the future.

Poultry.

The poultry industry in India is severely handicapped by the ravages of contagious diseases. The disease mainly responsible for the trouble at present is known variously as Doyle's disease or Ranikhet disease. Unfortunately no prophylactic agent for it has yet been found. The staff at Muktesar has devoted a certain amount of time to the investigation of the diseases of fowls and has been able to prepare a vaccine of dried tissues which produces immunity to Doyle's disease. The standardisation of this product has, however, proved extremely difficult and it cannot therefore yet be placed on the market. On the other hand a fowl-pox vaccine has been successfully produced at Muktesar and biological products for the prevention of fowl cholera are also obtainable from there. The United Provinces report that the use of colloidal iodine has been very successful in the treatment of worms in poultry and as a general tonic.

Forests.

Previous reports have explained the importance of India's forests as a source of revenue as well as their effect on climate in general, the extent and distribution of rainfall and the depth and quality of the soil. They have also stressed the fact that the value of forests is not

to be measured in terms of revenue alone, since the protection they afford to hill slopes and water-catchment areas contributes a great deal indirectly towards the prosperity of the country. It will therefore suffice to confine attention to the main features of forest administration during the year under review. The area of India's forests at the close of the year was 2,81,511 square miles, compared with 2,82,664 square miles in the previous year. The percentage under working plans (a written scheme of management aiming at continuity of policy, controlling the treatment of a forest) rose from 63.04 to 64.10. It is satisfactory to note that the total area under working plans is increasing slowly but steadily from year to year. An outstanding and encouraging feature of the year 1934-35 was a substantial increase in the net profit on forest produce in all provinces except the Punjab and the North-West Frontier Province. Just before the recent trade depression, *i.e.*, in 1929-30, the net profit from the sale of timber, bamboo, lac, tanning materials, oils, turpentine, rosin, *etc.*, amounted to Rs. 2.50 crores. During the slump it sank to Rs. 1.21 crores in 1930-31, Rs. 95.32 lakhs in 1931-32, Rs. 86.14 lakhs in 1932-33 and Rs. 74.90 lakhs in 1933-34. In 1934-35, however, the tide turned and the net profit rose to Rs. 1.34 crores. This is a hopeful sign and indicates an all-round improvement in economic conditions. Compared with the figures of the past few years, the increase was noteworthy in Bengal, Bihar and Orissa, the Central Provinces, Madras and Bombay, but remarkable in Burma. The major portion of the increase there was under teak, which, in spite of severe competition, earned Rs. 80.60 lakhs. In assessing the significance of the foregoing figures, it should not be forgotten that a number of free concessions are granted to rightholders and forest villagers. During the year under report, these consisted of the grazing of over 4½ million head of cattle and the distribution of about 5 million cubic feet of timber, 75 million cubic feet of fuel and other minor produce, in addition to free grass-cutting. In all, the value of these concessions amounted to some Rs. 70.17 lakhs and this sum is not included in the revenue figures mentioned above. The value of imports of timber into British India during the calendar year 1935 was Rs. 9,37,087, whereas that of the exports of forest produce during the financial year 1934-35 was Rs. 5,72,85,198.

Preservation of Wild Life. The movement for the preservation of wild life received further support from both official and private sources. In some provinces new sanctuaries were established and the game rules revised so as to afford adequate protection to certain species of animals.

Forestry Education. The Forest College, Dehra Dun, remained closed during the year under review, but, as anticipated in last year's report, re-opened with effect from the 1st April 1935. This was the outcome of a reviving demand from provinces and States for recruits for their Subordinate Forest Services and the generous offer of the Governments of the United Provinces and the Punjab to lend the services of the instructional staff free of cost. Twenty-seven candidates were selected and nominated by the provinces and States concerned for training as Rangers during 1935-37 and these constitute the new class at the College.

Research. Dehra Dun. At the Forest Research Institute, Dehra Dun, research work was conducted in accordance with the sanctioned triennial programme. In the Silvicultural Branch, the investigation into the influence of the origin of teak seed on the plants produced, or the relation between parent trees and their offspring, was taken a step further and is likely to provide valuable data for areas where the entire seed supply has to be imported. The Botanical Branch continued its systematic study of several important species, in particular the *Dipterocarpaceae* and *Terminalias,* and carried out, in co-operation with the Chemical Branch, an investigation of the hydrogenion concentration of forest soils with reference to problems of regeneration in the Kulu division. The Entomological Branch bred about 25,000 insects in its insectary and added 570 new species to the Institute's collection, which now consists of 14,157 species. Investigations on the relative importance of insects, fungi, *etc.* in the dying off of *Shorea robusta* were completed and conclusions reached; while successful measures were devised for the protection of standing *sal* trees against secondary borers. Biological work on the borer pests of living trees disclosed that effective control can be obtained by modifications or correct application of silvicultural measures. This may prove to be the only solution to all the problems of pest suppression in pure-teak plantations. Investigations were also carried out on the borers of logs, plywood and planking and of timber in salt water, and measures for the reduction of the damage caused by them were devised.

A further meeting of the Raman Committee held in June 1934 considered the treating of timber with 'Ascu' and, as a result, the extensive experimental treatment of railway sleepers is to be undertaken. In March 1935 the President convened at Calcutta a meeting of all the pulp and paper interests to consider what further research in this direction should be carried out at Dehra Dun. Dr. Kapur's experiments have considerably reduced the cost of kiln seasoning and many people have become interested in it. One of the important investigations in hand was the work connected with the suitability of Indian woods for veneer. Of the activities of the Chemical Branch mention may be made of the study of the fluorescence of wood under ultra-violet light. From the results obtained in some cases there is reason to believe that the systematic study of this phenomenon correlating the nature of fluorescence with the constitution of timber and its anatomical structure may prove of value as an aid to identification. The two most important events of the year, however, were the meetings of the Board of Forestry and the fourth Silvicultural Conference. The former was attended by the Heads of all the provincial Departments. It discussed *inter alia* questions relating to the broader aspects of forestry in India (particularly co-operation in research between the provinces and the Forest Research Institute), the future of forest education in the country, the possibility of marketing Indian timbers in certain parts of Asia and Africa and the influence on forest policy of the increasing use of substitutes for timber. The Silvicultural Conference was attended by 35 delegates representing all the provinces and most of the Indian States. It took important decisions regarding research methods and covered a large field of silvicultural work.

The Provinces.

The amount of research work undertaken in the provinces in consultation and co-operation with the Forest Research Institute is expanding steadily. There are indications that the value and importance of forest research in accelerating and cheapening production and improving the financial results of forest management are being increasingly realised. In most provinces further investigations were made into the artificial regeneration, by stump planting, of various species, chiefly teak, *terminalia chebula,* sandal, walnut and ash. Pre-monsoon teak stump planting proved preferable in Bengal, Madras, Bombay, Coorg and Dehra Dun; while in the United

Provinces (other than Dehra Dun) and Burma the best time for planting was found to be the break of the rains. Experiments on mixed plantations and on the influence of the origin of teak seed on the plants produced (or the relation between parent trees and their offspring) were also conducted in several provinces. In regard to other research work done in the provinces, it will suffice to say that means for obtaining earlier and regular germination of teak seed were devised in Burma and a further study of the damage to teak timber by the bee-hore borer moth was carried out there; while intensive researches into the best methods and species for the regeneration of dry fuel forests and tropical evergreen forests were conducted in Madras; and in the North-West Frontier Province further experiments disclosed that the natural regeneration of *Pinus excelsa* is dependent chiefly on reduction in the depth of the unfavourable 'A' horizon of the soil (the topmost layer, which consists mostly of peat and friable soil considered not to be favourable for the growth of *Pinus excelsa*). For fuller details of provincial research the reader is referred to Part II of "Forest Research in India, 1934-35".

Irrigation. India's prosperity depends mainly on agriculture and this in turn depends largely on an adequate and timely rainfall. But as explained in our report for 1930-31, India's rainfall is subject to vagaries, sometimes of a serious nature. Moreover, many tracts in the country are rainless or nearly so and have no rivers to make good the deficiency. For all these reasons, India's artificial irrigation system, a relic of her age-old civilization widely extended and vastly improved by the British Government, is of great importance to her welfare. We need not detail here the large and rapid strides that have been taken in this matter in recent times, as they have been fully described in previous reports. We shall content ourselves with a statement of the position as disclosed by the most recent figures available. In 1933-34 the total area irrigated by Government works in British India was just short of 31.6 million acres. This is not a record, for the corresponding acreage was 31.7 million in 1929-30, but it represented 13.1 *per cent* of the area sown, as against 12.5 *per cent* in 1932-33. In 1934-35, however, the total area irrigated by Government works in British India had fallen to roughly 29.9 million acres or 12.8 *per cent* of the area sown. The length of main and branch canals and distributaries in use totalled about

75,000 miles in 1933-34 and 79,000 miles in 1934-35; and the value of crops supplied with water from Government works was estimated at Rs. 93 crores and Rs. 91 crores respectively in the two years in question. The Punjab was again the province with the largest irrigated area, namely, 11,343,000 acres in 1933-34 and 10,485,000 acres in 1934-35. In addition to this, it had another 675,000 acres and 663,400 acres respectively irrigated on Indian State channels from the Western Jumna Canal and the Sirhind Canal. Next came the Madras Presidency with an irrigated area of 7,302,000 acres in 1934-35, followed by Sind and the United Provinces with 4,069,000 acres and 3,827,000 acres respectively in that year. The foregoing figures do not include areas irrigated by wells, which totalled approximately 12.6 million acres in 1934-35. Including those under construction, the total capital outlay on irrigation and navigation works, amounted to Rs. 148.8 crores at the end of the year 1933-34 or Rs. 2.5 crores more than at the end of 1932-33. By the end of 1934-35, it had risen to Rs. 150.89 crores. The gross revenue for 1933-34 was Rs. 13.1 crores and working expenses, Rs. 4.9 crores. The corresponding figures for 1934-35 were Rs. 12.34 crores and Rs. 4.9 crores respectively. The net revenue on capital thus worked out to 5.54 *per cent* in 1933-34 and 4.9 *per cent* in 1934-35, *i.e.,* an increase of 0.19 *per cent* and a decrease of 0.45 *per cent* respectively compared with the earnings of 1932-33.

The Lloyd Barrage.

The Lloyd Barrage canal system in Sind, one of the largest of the kind in existence and capable of irrigating some 5½ million acres annually when fully developed, again gave satisfactory results in 1934-35, the third year of its working. The total area irrigated fell from 2,850,000 acres to 2,783,000 acres. Of the latter, 1,576,000 acres were in *kharif* and 1,207,000 in *rabi,* wheat and cotton occupying 906,000 acres and 614,000 acres respectively. Among the more important items of construction during the year were the excavation of main and branch watercourses, the provision of modules and hume-pipe culverts at their off-takes and the erection of a few additional regulators and bridges. The year saw the completion of the Flood Protective Bund scheme, mentioned in last year's report, and satisfactory progress in the excavation of the main Nara Valley Drain. The hill floods which occurred in 1934 and subsequent detailed investigations in this connection showed that it was essential

that the Gaj Diversion Works should be raised, strengthened and extended. This work is now in hand. The allied problems of water-logging and drainage in the areas affected continued to receive attention. The investigation into these questions is yielding useful results and it should not be long before satisfactory solutions are found.

Cauvery Mettur Project.

A notable event in the sphere of irrigation was the opening of the Cauvery Mettur scheme on the 21st of August 1934. The project was sanctioned in 1925 for Rs. 737 lakhs and is intended both to improve the existing supplies for the Cauvery delta irrigation of over a million acres and to extend irrigation to a new area of 301,000 acres. It is expected to yield a net revenue of over Rs. 50 lakhs annually. In addition to irrigation, the scheme will enable a considerable amount of hydro-electrical energy to be generated for industrial purposes. This latter project is likely to be completed by April 1938 and to give a substantial return.

Irrigation Projects under Construction.

Apart from the numerous irrigation schemes in actual operation, quite a number were under construction in the various provinces during the year. Among these may be mentioned the Nira Canals in the Bombay Presidency. The Nira Right Bank Canal scheme is one of the largest of its kind in India, the Lloyd Dam connected with it being designed to impound over 24,000 million cubic feet of water. The scheme is expected to be completed in 1936-37. Another important work under construction was the Damodar Canal in Bengal. Even in its unfinished condition, this canal saved crops worth about Rs. 60 lakhs from destruction during the year. In the United Provinces considerable progress was made with the State tube-well scheme, 109 wells in the Meerut district and 46 in the Moradabad district being completed and brought into use.

Research.

As in the case of agriculture and industry, research forms a most important part of Government's activities in the sphere of irrigation. Co-ordination between the provinces engaged in irrigation research was maintained under the aegis of the Central Board of Irrigation through its Research Committee. This Board was constituted in its present form in 1930, since when annual meetings have been held for the discussion of technical and professional questions of all-India importance in irrigation. The Board maintains an office in Simla with a permanent Secretary, who is also Librarian

and Curator of the Board's Library and Information Bureau. During the year under review a large volume of literature on irrigation and allied subjects was received in the Board's Library, and contact between other irrigating countries and the provinces of India was maintained. General technical publications were issued by the Board through its office and a number of enquiries were dealt with by the Bureau.

Industry.

Despite the stagnation due to trade depression (which, however, was not as acute as in the early part of the previous quinquennium), the year under review saw some development in the sphere of industry—particularly the handloom industry, sericulture and labour legislation. In the course of the debate on the Indian Tariff Textile Amendment Bill in the Indian Legislature during the winter session 1933-34, the Government of India announced their intention to assist the handloom industry by giving, for five years, grants-in-aid equal to the proceeds of the import duty on yarns up to fifty counts, which was estimated at Rs. 3½ lakhs *per annum*. They also intimated that Rs. 1 lakh a year would be allotted for five years for the development of sericulture. The Provincial Economic Conference held in April 1934 gave special attention to the problem of industrial research. It felt that the most pressing need was a central clearing house of industrial intelligence to keep abreast of developments both in India and abroad and to give information and advice to industrialists and persons seeking industrial openings. The questions of grants to the handloom and the sericultural industries and of creating an Industrial Intelligence and Research Bureau were further considered at the sixth Industries Conference held in July 1934, to which practically all the provinces and several Indian States sent representatives. After examining the schemes prepared by provinces for the development of the handloom industry, the Conference drew up principles for the allocation of the grant. In regard to the grant for sericulture, it recommended that an Imperial Sericultural Committee should be created, as suggested by the Indian Tariff Board, and the question of allocating the grant referred to it. The Conference also welcomed the proposal to establish a Central Industrial Intelligence and Research Bureau. All these recommendations were accepted by the Government of India, which proceeded to give effect to them. The grant for the handloom industry was distributed among the provinces after they had modified their schemes for its development;

that for sericultural research was allocated in accordance with the recommendations of the Imperial Sericultural Committee, which held its first meeting in February 1935 and the creation of an Industrial Intelligence and Research Bureau with effect from 1st April 1935 was decided upon.

Action on Labour Commission's Report.

Our report for 1931-32 contained a brief summary of the recommendations of the Royal Commission on Labour and subsequent reports have described some of the action taken on them. One of the most important items of legislation undertaken on the advice of the Commission is the revision of the Indian Factories Act, 1911, to which reference was made in last year's report. The Bill in question was passed in September 1934 as the Factories Act, 1934. It came into force on the 1st January 1935 and replaced all previous legislation on the subject. The main features of the new Act are a reduction in working hours for adults in perennial (*i.e.*, non-seasonal) factories from 60 to 54 a week, unless they are employed on continuous processes, in which case they may work 56 hours a week; a reduction in the daily working hours for men in perennial factories and for women in all factories from 11 to 10; and the provision of a continuous period off work amounting to at least 11 hours for adults. The Act also fixes the rate of payment for overtime worked in virtue of exemptions from its provisions at 1¼ times the ordinary rate if the overtime does not increase the total working hours beyond 60 a week in perennial factories, and at 1½ times the ordinary rate for work over 60 hours a week in all factories and over 10 hours a day in perennial factories. It further protects adolescents (persons between the ages of 15 and 17) by prohibiting their employment as adults until they are certified as fit for adult work; reduces the working hours for children (persons between the ages of 12 and 15) from 6 to 5 a day and requires that those hours shall be so arranged that they fall within a continuous period of not more than 7½ hours each day. Among its other important provisions are the protection of workers against high temperatures in factories, tests for the stability of factory buildings, protection from industrial diseases, control of overlapping shifts, provision of first-aid appliances, creches, shelters during rest and washing facilities for workers in unhealthy trades. The revised Bill dealing with the payment of wages forecast in last year's report, was prepared and introduced in the Legislative Assembly in February 1935 and was

referred to a Select Committee. This, when passed, will constitute another important piece of labour legislation adopted on the Royal Commission's recommendations.

The Factories Act.

As the Factories Act of 1934 did not come into force till the 1st January 1935, the Indian Factories Act, 1911 (as amended subsequently), was in operation during the greater part of the period under review. It should be noted, however, that the latest information available about its working relates to the calendar year 1934. During this period the number of registered factories rose from 9,558 to 9,761, the number of new factories registered being 528 and the number of factories actually working having increased by 206. The largest number of fresh registrations were in Madras, Bombay, the United Provinces and Assam and are accounted for mainly by ginning and sugar factories. Among the former were 24 erected in the Lloyd Barrage area in Sind. There was a further tendency for the textile industry to shift from Bombay city to Ahmedabad and a slight decrease in the number of jute presses in Bengal. The number of sugar factories actually working rose from 213 to 225, and this is additional evidence of the growth of the sugar industry, alluded to earlier in this chapter. The average daily number of operatives at work was 1,487,231, as against 1,405,402 in 1933. This is the first increase in operatives that has taken place since 1929, and, coupled with the other increases mentioned above, indicates a slight but definite improvement in trade conditions. Bengal, Bombay, the United Provinces and Madras registered the largest additions in the order named and these were due chiefly to the sugar, cotton and jute industries, which absorbed 15,478, 20,848 and 6,564 more workers respectively. The increase in jute mills is attributable mainly to the re-starting of some of the looms that were closed down in 1932 in pursuance of the restriction scheme. Though there was a marked decrease in the number of children employed, the number of female employees rose slightly. Employers evinced greater interest in the welfare of operatives and the year witnessed an all-round improvement in this respect. In most provinces wages for both skilled and unskilled labour either remained steady or increased; the Bengal jute mills continued their efforts to improve the lot of their workers; the safeguarding of machinery and plant received close attention, as also did sanitation and ventilation;

and welfare work such as the provision of medical facilities, creches, and milk and barley for children, was in evidence. Unfortunately, however, the year had its black patches. 20,787 accidents occurred in 1934—over 2,000 more than in 1933—and of the former 233 were fatal—again an increase over the previous year's figure (194). The larger number of accidents in 1934 was due chiefly to increased employment, employment of less experienced men in consequence of the general strike in Bombay city and the more extensive use of machinery. It is notable that an appreciable number of accidents, both fatal and otherwise, occurred in sugar factories. Greater vigilance on the part of the authorities and greater readiness to assert their rights on the part of employees are reflected in the fact that the number of convictions for offences under the Act were 143 more than in 1933.

Workmen's Compensation Act.

Statistics relating to the working of the Workmen's Compensation Act during 1934 are not complete, as many provinces report failure by employers to submit returns. For this reason it is not possible to draw any reliable inferences from the figures available. The number of cases under the Act increased from 14,559 to 16,890 and the amount of compensation paid from Rs. 813,949 to Rs. 868,847. It is satisfactory to note that there was a tendency for employers to make *ex-gratia* payments not required by the Act. For instance, in Bombay *ex-gratia* payments to the extent of Rs. 2,000 were made in five cases in which claims had been dismissed by the Commissioners. A case is also reported of a factory owner in that province who made an *ex-gratia* award of Rs. 800 in respect of an accident involving the death of two workers. The Act was amended in certain respects in 1933 but the important amendments, such as those relating to increased scales of compensation and the inclusion of many more classes of workmen within the scope of the Act, took effect only from the 1st July 1934. Information as to their working is therefore scanty. There are indications, however, that the amendments which enable the Commissioner to take the initiative to a limited extent in fatal accidents are proving useful in securing compensation for dependents in such cases. Another effect of the amendments appears to be an increase in the proportion of petty claims, since the raising of the scales of compensation has made it more worth while to pursue such claims. Nevertheless, it is probable that a substantial number of such cases do not come to light.

Trade Unions. In regard to Trade Unions also the latest figures available, which relate to the year 1933-34, are not complete, for, as explained in previous reports, registration under the Act is not compulsory. Moreover, several of the registered unions failed to submit returns. Such figures as are available, however, indicate some loss of ground. For instance, though the number of registered unions increased from 170 to 191, the total membership of the unions which reported decreased from 237,369 to 208,071. It should be noted, however, that while 23 unions failed to submit returns for 1932-33, no less than 31 unions failed to submit returns for 1933-34. It should also be remembered that the number of unregistered bodies is large. The figures cited above therefore do not truly represent the extent of the movement in India. Railway unions again contributed the largest number of members, namely, 98,682. This is an appreciable drop from the figure for the previous year (122,667). There was also a material reduction in the number of women members of registered unions. This fell from 5,090 to 2,999 due largely to a decrease in the membership of the Kajugar Kamkari Union of Bombay, which consisted almost entirely of women. The figures reported for 1932-33, however, were too high owing to misclassification by a union in the Central Provinces. The actual decrease in the number of women members of registered trade unions must have been something less than 2,000.

Strikes. The position in regard to strikes too showed a definite worsening during 1934, the latest year for which figures are available. This is probably an outcome of the larger number of workers employed in mills, factories, *etc*. The total number of strikes was 159, as against 146 in the previous year and the number of men involved 220,808, as against 164,938 in the previous year. The number of working days lost (4,775,559) was more than double those lost in 1933 (2,168,961). It is significant that the largest number of disputes and workers involved were in the cotton and woollen mills. As in previous years, the majority of disputes related to wages and amounted to 68 *per cent* of the total. Workmen were successful in gaining some concession in approximately 36 *per cent* of the total number of strikes ended during the year. The most important strikes were those in the Bombay textile mills from April to June and in the Sholapur Mills, Bombay, from February to May. The former involved no less than 90,684 workers and the latter 17,248. In both

cases the strikes related to wages and ended in favour of the employers.

International Labour Organisation.

India's membership of the League of Nations and of the International Labour Organisation not only affects her own labour policy and legislation to some extent, but also gives her an opportunity of influencing international labour policy. It is therefore worth mentioning that, as a result of an increase in the strength of the Governing Body of the Organization, her employers and workers obtained a seat each on that Body. This recognition of her importance as an industrial country is most satisfactory. At its eighteenth session held at Geneva in June 1934, the International Labour Conference adopted four draft Conventions concerning the employment of women during the night, workmen's compensation for occupational diseases, regulation of hours of work in factories manufacturing sheet glass by automatic machines, and benefit or allowances to those involuntarily unemployed; and also a draft Recommendation relating to unemployment insurance and various forms of relief for the unemployed. These had, under article 405 of the Treaty of Versailles, to be brought before the authority or authorities within whose competence the matter lies, for the enactment of legislation or other action. The draft Conventions relating to the employment of women during the night and workmen's compensation for occupational diseases are still under consideration. The draft Conventions (*i*) regulating hours of work in factories manufacturing sheet glass by automatic machines, and (*ii*) ensuring benefit or allowances to the involuntarily unemployed, and the Recommendation concerning unemployment insurance and various forms of relief for the unemployed were duly placed before the Legislative Assembly and the Council of State. In the case of the former Convention, the Legislative Assembly recommended to the Governor-General in Council that the matter should be brought up for reconsideration by the Assembly after publication of the Tariff Board's report on the glass industry. It did not adopt any Resolution on the latter draft Convention or the Recommendation concerning unemployment insurance. The Council of State adopted Resolutions in identical terms recommending that the Governor-General in Council should not ratify the draft Conventions or accept the Recommendation.

Indian Stores Department.

Returns relating to the Indian Stores Department too indicate some revival of trade and general improvement in economic conditions. The value of stores purchased during the year 1934-35 amounted to Rs. 4,76,36,251, as against Rs. 3,59,94,135 during 1933-34. To the increase of Rs. 1,16,42,116 no less than Rs. 88,92,128 were contributed by the various railway administrations. Textile purchases and the value of orders for engineering and miscellaneous stores again showed substantial increases. On the inspection side also, the year under review witnessed a further all-round expansion of the work handled. The value of stores inspected by the various organisations under the Department amounted to Rs. 5,36,35,655, as against Rs. 4,46,65,505 during the preceding year. In addition, rails, fishplates, castings, pipes and other steel products aggregating 323,862 tons were inspected, the corresponding figure for the previous year being 254,833 tons. The total number of tests, analyses and investigations carried out at the Government Test House, Alipore, and the Metallurgical Inspectorate, Jamshedpur, amounted to 65,909 or 19,144 more than during the year 1933-34.

CHAPTER II.

Commerce.

Scope of Chapter. This chapter will first outline the general features of the year's trade, will go on to a more detailed statement of the principal exports and imports and will conclude with some account of other matters of commercial interest.

Agricultural Conditions. From the agricultural point of view, the season was not, generally speaking, very favourable. Though the monsoon of 1934 appeared somewhat later than usual, it gave, on the whole, fairly adequate and well-distributed rain. Nevertheless, the output of some of the major crops was lower than in the preceding year. The yield of rice, for instance, decreased by 2 *per cent* (no less than 12 *per cent* in Burma) and of cotton by 5 *per cent*. In the latter case, the decline was due to the crop being damaged by excessive rain and frost in some of the important cotton-growing areas. Unfavourable weather conditions also marred, to some extent, the prospects of a very good sugarcane crop and affected the yield of groundnut, sesamum and castor seed. The wheat crop of 1933-34, which was mostly mowed during the year under report, was slightly less than that of the previous year. The outturn of jute, however, was 6 *per cent* higher than in 1933-34.

Industrial Conditions. The industrial situation also was less satisfactory, disputes being more numerous and the loss of working days much greater.

Economic Conditions Abroad. A brief survey of economic conditions abroad will be found in the chapter on Finance. All that need be said about them here is that they were slightly better than in the previous year. The overseas demand for Indian agricultural produce, however, showed little improvement.

Economic Conditions in India. In India too signs of further recovery were visible in many directions, as indicated in various places in this report. On the whole, industrial progress was maintained, particularly in cotton, jute, iron, steel and sugar, which constitute India's staple industries, and there was some advance in the prices of agricultural produce, especially oilseeds, cotton and jute. This means, broadly speaking,

that the population had more to spend. Prices in general, however, remained at a low level and showed no marked appreciation, though the steadiness of the latter half of the previous year was maintained. This is borne out by the Calcutta wholesale-price index number, which was 143 in September 1929, just before the slump set in, touched low-water mark (82) in March 1933 and during 1934-35 fluctuated within 2 points above or below—more often above—88, at which it stood in March 1934. In January 1935, however, due to a speculative rise in the price of cereals and oilseeds, it mounted to 94, but by the close of the year under report had dropped to 87.

General Features of Export and Import Trade.

Recent issues of this publication have explained that since prices began to fall in October 1929, the decline in India has been much greater in respect of exported articles (chiefly agricultural produce) than in respect of imported (manufactured) articles. This position continued during the year under review. According to the Indian index number series, the fall in March 1935 as compared with September 1929 was 41 *per cent* in the case of the former and only 28 *per cent* in the case of the latter. It is to be remembered, however, that, on the basis of price levels in December 1931, the decline was greater in the case of imported articles (17 *per cent,* as against an increase of 4 *per cent* in March 1935) and that while the price of exported articles improved during 1934-35, that of imported articles declined.

When the year opened, the index number for exported articles stood at 116. With the exception of a slight fall in July and another in November, it rose steadily till February 1935, when it reached 132, the highest it has been since the depression began, but dropped to 128 in the following month. Its general tendency during the year, however, was distinctly encouraging. The same trend is reflected in the prices of the principal exports. According to the Calcutta index numbers, the decline in rice, which, compared with September 1929, was 52 *per cent* in March 1934, was only 43 *per cent* in March 1935. The corresponding figures for wheat, oilseeds and jute were 49 *per cent* and 47 *per cent,* 55 *per cent* and 45 *per cent,* and 53 *per cent* and 48 *per cent* respectively. There was no change in cotton; but the improvement in tea which occurred in 1933-34 was not maintained. The prices of imported articles, as already mentioned, showed the opposite tendency. Starting at 123, their index number,

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according to the Indian series, rose a point in June, but after further fluctuations between 124 and 122, fell to 121 in February 1935 and a point lower still in March—its nadir since October 1929. The inference to be drawn from these two sets of figures taken together is that the prices of manufactured articles, which comprise the bulk of the imports, are adjusting themselves to those of exported articles though there is still much leeway to be made up.

Summary of the Year's Trade. Imports.

The total value of foreign merchandise imported during 1934-35 was Rs. 132 crores. This is Rs. 17 crores more than the previous year's figure and represents an improvement of 15 *per cent.* Among the principal items which made up the increase, those which deserve mention are cotton and cotton goods (Rs. 6,22 lakhs—cotton manufactures [including fents] accounting for no less than Rs. 4,50 lakhs); metals and ores (Rs. 1,88 lakhs); grains, pulse and flour (Rs. 1,82 lakhs); motor cars and omnibuses (Rs. 1;37 lakhs) and wool, both raw and manufactured (Rs. 1,31 lakhs). The rise in the value of imported grains, pulse and flour was most marked (from Rs. 84 lakhs to Rs. 2,66 lakhs) and was due chiefly to the larger imports of rice, both husked and unhusked. Noticeable among the imports which decreased in value were sugar (Rs. 60 lakhs); raw silk and silk manufactures (Rs. 22 lakhs) and machinery (Rs. 13 lakhs). The further fall in the first case (from 261,000* tons to 223,000 tons) undoubtedly resulted from the increase in the output of indigenous sugar and the protective duty on foreign sugar.

Exports.

Exports advanced from Rs. 150 crores to Rs. 155 crores or by 3 *per cent.* To the additional Rs. 5 crores, raw cotton contributed Rs. 7,43 lakhs, the quantity exported being 3,490 thousand bales, as against 2,821 thousand bales in 1933-34. Other large contributors were lac (Rs. 84 lakhs), gunny bags (Rs. 53 lakhs), wolfram ore (Rs. 43 lakhs), raw rubber (Rs. 35 lakhs), oil cakes (Rs. 32 lakhs), teak and tea (Rs. 29 lakhs each). Though exports of raw jute increased slightly in quantity, the price realised was a little less than in the previous year. There were decreases in a number of other items also, notably seeds, hides, skins and opium.

Re-exports.

Of the total value of exports in 1934-35, Rs. 3,55 lakhs represented re-exports. This was Rs. 13 lakhs more than in 1933-34, the rise being due mainly to raw skins (the re-exports of which, however,

*This figure excludes molasses, which was included last year.

declined in quantity), manufactured silks, vehicles, and metals other than iron and steel. There were decreases under cotton piecegoods, raw wool and a few less important items.

Balance of Trade and Gold Exports.

Again in 1934-35, the visible balance of trade in merchandise and treasure was in favour of India, though this time to the extent of Rs. 76 crores as against Rs. 93 crores in the previous year. Shipments of gold too were once more large (Rs. 53¼ crores), but somewhat less than in 1933-34 (Rs. 58 crores).

Detailed Account of Imports. Cotton and Cotton Goods.

Proceeding now to the detailed account of imports, cotton and cotton goods will be dealt with first, as they are by far the most important. An appreciable increase in the import of cotton manufactures marked the year under review. Every important section of the trade participated in the advance, which seems to have been due partly to the comparatively high intake of 1932-33 having been consumed during that and the succeeding year and partly to the general improvement in economic conditions. The total value of imported cotton manufactures including fents was Rs. 22,24 lakhs, compared with Rs. 17,74 lakhs in the previous year and Rs. 59,49 lakhs in 1929-30, which may be taken as the last of the normal years. Imports of cotton twist and yarn totalled 34 million lbs. valued at Rs. 3,10 lakhs or 2 million lbs. and Rs. 52 lakhs more than in the preceding year. The increase, both in quantity and value, was due mainly to larger imports of mercerised yarns. Taking quantities alone, the year saw both an absolute and a relative expansion in China's share of the trade at the expense of the United Kingdom and Japan. The values realised, however, rose in the case of all countries. It is interesting to observe that though, on the basis of quantity, Japan lost more than the United Kingdom, in value her share rose by Rs. 20 lakhs and the United Kingdom's by Rs. 5 lakhs only.

Despite the fact that the outturn of cotton piecegoods in India (including handloom production) reached the record level of 4,853 million yards during the year under review, the imports of this commodity from abroad rose from 796 million yards to 980 million yards in quantity and from Rs. 13,49 lakhs to Rs. 17,41 lakhs in value. The imports in 1934-35 were 23.1 *per cent* higher than in 1933-34 and 49 *per cent* lower than in 1929-30 on the basis of quantity, but 29.1 *per cent* higher than in 1933-34 and 65.3 *per cent* lower than in 1929-30 on the basis of value. The United Kingdom

and Japan were again the largest exporters; but while the latter's shipments increased by 48 million yards, the former's increased by as much as 134 million yards. Their respective shares of the year's imports of piecegoods other than fents was 58.5 *per cent* and 39.6 *per cent* as against 54.5 *per cent* and 44.8 *per cent* in 1933-34. In respect of cotton fents, however, the position was reversed, Japan's share of the total of 36 million yards imported having risen very substantially (from 8 million to 23 million yards and from Rs. 12 lakhs to Rs. 33 lakhs), while that of Great Britain fell from 11 million to 7 million yards and from Rs. 17 lakhs to Rs. 8 lakhs. The United States of America were also losers to the extent of 11 million yards and Rs. 10 lakhs.

Silk and Wool.

Due possibly to the Indian Tariff (Textile Protection) Amendment Act, 1934, which imposed protective duties on raw silk, silk yarn, piecegoods and mixtures, the total value of silk imports fell from Rs. 3,59 lakhs to Rs. 3,37 lakhs. Raw silk declined from 2.4 million lbs. valued at Rs. 72 lakhs to 2.2 million lbs. valued at Rs. 57 lakhs, and silk manufactures, from Rs. 2,87 lakhs to Rs. 2,80 lakhs; but silk yarn rose from slightly over 2 million lbs. to 3.3 million lbs. in quantity and from Rs. 47 lakhs to Rs. 78 lakhs in value. Under piecegoods too, however, there was a recession—from 41 million yards valued at Rs. 1,82 lakhs to 33 million yards valued at Rs. 1,25 lakhs. Japan was the principal loser in piecegoods, but made up her losses not only under yarn, of which she took the lion's share (a little more than 1.8 million lbs.), but also under silk mixtures, of which she contributed 11.7 million yards (3.7 million yards more than in 1933-34) towards the total of 13.4 million yards valued at Rs. 74 lakhs imported during 1934-35.

Imports of artificial silk rose very markedly, the increase in yarn being 6.8 million lbs. and that in piecegoods (mixed and unmixed) nearly 26 million yards. The total value of these imports was Rs. 3,59 lakhs as compared with Rs. 2,74 lakhs in 1933-34. Japan was the chief supplier, but this is not surprising as she has in recent years attained pre-eminence in rayon production, being now second only to the United States of America.

Both raw wool and manufactured wool were imported in larger quantities, the total shipments during the year being valued at Rs. 3,86 lakhs against the previous year's Rs. 2,55 lakhs. Raw wool. the imports of which increased by nearly a million lbs., accounted for

Rs. 41$\frac{1}{3}$ lakhs of the total. A feature of the year was the growing Japanese competition in woollen manufactures. The imports of worsted yarn from Japan amounted to about 50,000 lbs. only in 1932-33, but stood as high as 1.3 million lbs. in the year under review and accounted for Rs. 25 lakhs of the Rs. 29 lakhs worth of yarn imported. Though the United Kingdom sent some 72,000 lbs. less, her receipts were nearly the same as in 1933-34, namely Rs. 3 lakhs. Knitting wool tells the same tale of Japan's domination. Of the total intake of nearly 1.9 million lbs. valued at about Rs. 32 lakhs, she supplied some 1.2 million lbs. valued at Rs. 20 lakhs. Her contribution in the previous year was 325,000 lbs. only valued at a little under Rs. 5 lakhs. Here, however, the high quality of Great Britain's products enabled her to hold her own—her consignments advanced from 421,000 lbs. to 619,000 lbs. Imports of woollen piecegoods, including goods of wool mixed with other materials, totalled nearly 14 million yards in quantity and Rs. 1,82 lakhs in value, *i.e.,* increases of 2$\frac{1}{2}$ million yards and Rs. 52 lakhs over the previous year's figures. Under this head too Japan took the lead, though for the first time, her portion being 7.3 million yards; but in this department also the United Kingdom held her own and increased her quota by a million yards.

Metals and Manufactures Thereof.

Unlike last year, when there was a recession, the imports of metals and manufactures thereof advanced by 16 *per cent* in quantity (from 392,000 tons to 456,000 tons) and by 20 *per cent* in value (from Rs. 9,49 lakhs to Rs. 11,37 lakhs). All the important metals shared in the increase. Though India herself produced more iron and steel during the year under review, she also imported larger quantities of them, namely 370,000 tons as against 329,000 tons in 1933-34. The United Kingdom's share of the year's imports, her greatest since 1931-32, rose absolutely (by 16,000 tons) but fell relatively, while Germany and Japan increased their shares a little, both absolutely and relatively. The imports of non-ferrous metals also expanded—from 62,000 tons valued at Rs. 3,95 lakhs to 86,000 tons valued at Rs. 4,99 lakhs. Noteworthy features were the marked rise in copper imports (by 216,000 cwt. valued at Rs. 52 lakhs), the United Kingdom, Germany, Japan and the United States of America being the largest suppliers and sharers of the increase, and the slight rise (100 cwt.) in the quantity of lead imported, which was accompanied by a fall of Rs. 72,000 in value.

Machinery.

Taking the various types of machinery and millwork together, imports declined from Rs. 12,77 lakhs to Rs. 12,64 lakhs. The reduction was due chiefly to a fall under sugar machinery, the imports of which had been heavy during the two preceding years. With a few exceptions, however, the remaining items under this head showed increases. In fact, if sugar machinery were left out of account, there would be a rise here of Rs. 2,18 lakhs. The larger imports of sugar machinery from the Netherlands and of textile machinery from Japan led to a reduction in the United Kingdom's share of the trade in 1933-34; but most of the lost ground was regained during the year under review, no other country recording an improvement except America. The only items which call for detailed notice are sugar machinery and tea machinery. Imports of the former, as already stated, declined markedly, namely from Rs. 3,36 lakhs to Rs. 1,05 lakhs or by more than half. The United Kingdom's shipments were valued at Rs. $73\frac{2}{3}$ lakhs as against Rs. 1,96 lakhs in the previous year, but her share of the total value was 70 *per cent* in 1934-35 as against only 58 *per cent* in 1933-34. In view of the tea restriction scheme, mentioned in our last two reports, it is interesting to note that the imports of tea machinery increased and were valued at Rs. 22 lakhs compared with Rs. 12 lakhs in the preceding year.

Motor Vehicles.

The world trade depression had a very adverse effect on the importation of motor cars into India. Consignments fell from 17,399 in 1929-30 to 12,601 in 1930-31 and more drastically still in the two succeeding years. This process was arrested in 1933-34, when some expansion occurred. The year under review saw a further advance, the number imported being 14,434 as against 9,759 in the previous year. The United Kingdom was again the largest supplier but during the year the United States of America made more headway against her. In spite of tariff preferences, the former was able to secure only 21 *per cent* of the increase in imports, while the latter captured 71 *per cent*. Shipments from the United Kingdom were valued at Rs. 1,24 lakhs and those from the United States at Rs. 93 lakhs. The imports of motor omnibuses, vans and lorries also increased—from 5,496 to 9,973 in number and from Rs. 66 lakhs to Rs. 1,21 lakhs in value. Here too America, which has always held a predominant position, increased her quota from 3,692 to 6,559, while consignments from the United Kingdom rose from 528 to 1,171.

Great Britain occupies only third place in this branch of the trade, but her shipments to India during the year under review were her highest in recent years.

Sugar.

Though the output of the Indian sugar industry has been increasing rapidly in recent years, it is not yet sufficient to meet Indian requirements fully. India has therefore still to import an appreciable though declining quantity of sugar from abroad. Despite a substantial rise in home production, the total imports during the year under review amounted to nearly 223 thousand tons, excluding molasses. This, however, was appreciably less than the quantity imported in the previous year. Java was again the chief supplier, but her share declined from 194.4 thousand to 175.9 thousand tons. There was a marked reduction in consignments from the United Kingdom also, namely from 37 thousand tons to only 17 thousand tons.

Other Imports.

With a few exceptions, notably drugs and medicines, which declined in value from Rs. 1,93 lakhs to Rs. 1,92 lakhs; spices, which declined from Rs. 1,56 lakhs to Rs. 1,55 lakhs; tobacco, which declined from Rs. 72 lakhs to Rs. 62 lakhs; and coal and coke, which declined from Rs. 14 lakhs to Rs. 12 lakhs, all other imports registered increases. Among these may be mentioned mineral oils, which advanced from 186 million gallons valued at Rs. 5,83 lakhs to 201 million gallons valued at Rs. 6,07 lakhs (petrol, however, declined from 1.6 to 1.5 million gallons, due probably to larger home production); hardware, which increased from Rs. 2,88 lakhs to Rs. 3,05 lakhs; chemicals, which rose from Rs. 2,70 lakhs to Rs. 2,92 lakhs; and liquors, which expanded from 4.8 million gallons valued at Rs. 2,27 lakhs to 4.9 million gallons valued at Rs. 2,36 lakhs.

Detailed Account of Exports. Cotton, Raw and Manufactured.

During the year under review, exports of cotton and cotton goods were affected mainly by two factors, the limitation scheme adopted by the United States of America and the operation of the Indo-Japanese Trade Agreement. The former was the dominating influence on cotton prices and, combined with the attempt to maintain the price of American cotton at artificial levels, led to a larger demand for cotton produced in other countries, India among them. In regard to the Indo-Japanese Trade Agreement, the significance of the year lay in the fact that it was the first complete trade

year during which Japan's purchases of Indian cotton were regulated by the quantity of her exports of piecegoods to India.

The total exports of raw cotton during 1934-35 amounted to 3,490,000 bales valued at Rs. 34,95 lakhs compared with 2,821,000 bales valued at Rs. 27,53 lakhs in 1933-34. Japan again took by far the largest quantity, namely 2,055,000 bales valued at Rs. 21,53 lakhs, or 949,000 bales more than in the preceding year with a rise of Rs. 10,16 lakhs in value. The United Kingdom too consumed more Indian cotton in the year under review than in the previous year (347,000 bales as against 342,000 bales), thanks chiefly to the efforts of the Indian Cotton Committee of Lancashire.

The revival of the demand for cotton piecegoods, evidenced by larger imports, was reflected also in the higher outturn of Indian mills, which totalled 3,397 million yards or 452 million yards more than in 1933-34. Only a very small proportion of this, namely 57.7 million yards or 1.7 *per cent,* was shipped abroad, the major portion going to the Indian market. The value of the exports in 1934-35 and 1933-34 was Rs. 1,77 lakhs and Rs. 1,66 lakhs respectively.

Jute, Raw and Manufactured.

Jute exports suffered a set-back during the year under review in that they lost their premier position among the country's exports. Actually, however, they advanced a little in quantity (from 1,420,000 tons to 1,437,000 tons or by 1.2 *per cent*), though remaining stationary at about Rs. 32⅓ crores in value. During the first half of the year jute prices tended to fall and the voluntary restriction scheme announced in September 1934 had little immediate reassuring effect. But as the year advanced, confidence grew, demands from foreign countries began to revive and the entire industry assumed a healthier outlook.

Exports of raw jute totalled 752,000 tons in quantity, the highest since 1929-30, and Rs. 10,87 lakhs in value. In spite of the increase of some 4,000 tons in quantity, however, the value of shipments decreased by over Rs. 6 lakhs*. Consignments to both the United Kingdom and Germany fell appreciably, namely by 11,000 tons and 29,000 tons respectively; but it is significant that while exports to certain other European countries also diminished, those to Italy increased substantially. Japan too took a good deal more

*The exact value of the previous year's exports was Rs. 10,93 lakhs. The Rs. 11 crores mentioned in last year's report was an approximate figure.

than in 1933-34. While the yardage of gunny cloth exported rose from 1,053 million to 1,063 million, the value fell from Rs. 11,38 lakhs to Rs. 10,99 lakhs. The United States of America were, as usual, the largest consumers, though their consumption shrank from 647 million yards to 610 million yards. Shipments to the Argentine increased by 59 million yards, while those to the United Kingdom and Canada declined by 2 million and 12 million yards respectively. Exports of gunny bags rose, both in quantity and value, the actual figures being 423 million and Rs. 10,25 lakhs against 402 million and Rs. 9,72 lakhs in the previous year. Notable features were the increases of 3 million, 29½ million, 9 million and 12 million bags respectively in the United Kingdom's, Siam's, South Africa's and Japan's quotas and the decrease of 22 million bags in Australia's quota.

Tea.

In the year under review, the second during which it had been in operation, the tea restriction scheme mentioned in our last two reports did not give as satisfactory results as in the first year. This was due partly to the slightly higher quotas fixed for the exports of the year, but mainly to the appreciable increase in shipments from countries not participating in the scheme, especially China. The additional quantities thus thrown on the market would not alone have caused so serious a deterioration in the stock position as did occur, had the rate of clearance not fallen below that of the previous year. In order to restore equilibrium between supply and demand, the export quota for 1935-36 has, under the scheme of control, been reduced from 87½ *per cent* to 82½ *per cent* of the normal figure. In addition, the industry as a whole has turned its attention to a "drink-more-tea" campaign, particularly in India and America, where potentialities are greatest.

The factors just mentioned and the larger home production (estimated at 400 million lbs. or 16.5 million lbs. more than in 1933-34) inevitably affected the year's exports, which totalled 325 million lbs. valued at Rs. 20,13 lakhs compared with 318 million lbs. valued at Rs. 19,84 lakhs in the preceding year. There were thus increases of 2.2 *per cent* and 1.5 *per cent* respectively. The average declared value *per* lb. of the exports, however, fell from 10 annas to 9 annas 11 pies. Shipments to the United Kingdom were again by far the largest, being 288.5 million lbs. or 89 *per cent* of the whole,

valued at Rs. 18 crores. Her share of the 1933-34 shipments was 87 *per cent.* Direct exports to other countries generally declined, the important exceptions being Arabia and Chile.

Foodgrains. There was still further shrinkage of the export trade in food-grains, though certain individual items registered some expansion. Consignments fell from 1,870,000 tons to 1,765,000 tons in quantity but rose from Rs. 11,75 lakhs to Rs. 11,84 lakhs in value. Rice and wheat will be considered separately. Of the remaining cereals, pulse and barley recorded increases of 8,000 tons and 14,000 tons respectively, after the latter's virtual disappearance from the list in 1933-34.

Rice. The fall in the exports of foodgrains resulted chiefly from a further contraction in the demand for Indian rice in foreign markets. Outward shipments declined from 1,744,000 tons to 1,607,000 tons. Burma, as usual, contributed the lion's share (87 *per cent*) of the shipments, namely 1,399,000 tons, which, however, was 128,000 tons less than in the previous year. Consignments to Europe declined from 523,000 tons to 442,000 tons owing mainly to Germany, the Netherlands and Belgium having taken appreciably less than in 1933-34; but thanks to the preference enjoyed by Indian rice in the United Kingdom, exports to that country increased by 17,000 tons. Exports to China (including Hongkong), the Straits Settlements and Ceylon, which are among India's principal customers, also showed large reductions, as did those to Cuba, which took a mere 17,000 tons against 46,000 tons in 1933-34. In most cases, these decreases can be traced to growing competition from other rice-producing countries, notably Siam and French Indo-China.

Wheat. Owing to keen competition and low prices, India has in recent years been forced to hold aloof from the international wheat market. Indigenous production increased slightly—from 9.4 million to 9.7 million tons (estimated)—and exports markedly—from 2,000 tons valued at Rs. 3 lakhs to 11,000 tons valued at Rs. 10½ lakhs. Of the latter quantity, the United Kingdom took no less than 9,000 tons.

Oilseeds. In contrast to the year 1933-34, the total exports of oilseeds of all kinds declined in 1934-35, being 875,000 tons valued at Rs. 10,54 lakhs as against 1,124,000 tons valued at Rs. 13,66 lakhs. The fall was due mainly to a reduction in the demand for linseed, the rise in which was the chief factor in last year's improvement. The

figures for linseed are 238,000 tons and Rs. 3 crores, *i.e.*, 141,000 tons and Rs. 1,58 lakhs less than the previous year's figures. Great Britain took 72,600 tons of linseed less and shipments to the United States, Germany, Italy and France were also somewhat seriously curtailed owing to the liberal crop produced by the Argentine. All other oilseeds suffered the same fate, though for groundnuts the reduction was smaller than for the others, due chiefly to a marked increase (of 81,400 tons) in consignments to the United Kingdom. Rapeseed, sesamum and cotton seed registered sharp declines.

Other Exports.

Gains and losses were fairly equally divided among the other exports, ten items showing increases in both quantity and value, nine decreases in both respects and two an increase in one respect combined with a decrease in the other. Noteworthy among the items in the first category were metals and ores. The total exports of ores, which amounted to 515,000 tons valued at Rs. 2,72 lakhs, showed an improvement of 210,000 tons in quantity and Rs. 88 lakhs in value. Exports of manganese ore absorbed about 89 *per cent* of the total and accounted for 460,000 tons or 194,000 tons more than in 1933-34. Consignments to France, the United Kingdom and Japan were mainly responsible for the rise. There was a further advance in the amount of pig-iron exported, the figures being 417,000 tons valued at Rs. 93 lakhs compared with 377,000 tons valued at Rs. 85 lakhs in the previous year. It is significant that shipments to Japan rose markedly (from 184,000 tons to 246,000 tons). The demand for Indian teak again increased, 43,000 cubic tons valued at Rs. 90 lakhs being exported in 1934-35 as against only 27,000 cubic tons valued at Rs. 61 lakhs in 1933-34. In view of the international restriction scheme, it is interesting to note that during the year under review exports of raw rubber expanded from 16.2 million lbs. valued at Rs. 31 lakhs to 23.8 million lbs. valued at Rs. 66 lakhs. Items in the second category which deserve special mention are raw wool, tobacco, coffee and opium. Exports of raw wool dropped from 55.9 million lbs. to 34.1 million lbs. in quantity and from Rs. 1,98 lakhs to Rs. 1,27 lakhs in value owing chiefly to a sharp fall in consignments to the United Kingdom (from 43.4 million lbs. to 25.7 million lbs.). Shipments of unmanufactured tobacco declined by about 10 *per cent* in quantity and 13 *per cent* in value; coffee, from 186,000 cwts. valued at Rs. 1,02 lakhs to 141,000 cwts. valued at Rs. 73 lakhs; and opium, from 3,524 cwts. to 825 cwts. only. Of the latter, 212 cwts. valued

at Rs. 7 lakhs were recorded under private merchandise compared with 2,270 cwts. valued at Rs. 73 lakhs in the year previous. This, as noted in another chapter, is an eloquent commentary on India's opium policy. Lac was the most important item belonging to the last category. The quantity exported in 1934-35 dropped by 145,000 cwts., but the value realised was Rs. 84 lakhs more than in the preceding year. This is accounted for by the fact that the bulk of the shipments was made when prices were high.

Direction of Trade.

We shall close our account of the year's commerce with a brief analysis of the direction of trade—that is, the relative movements of the share of Indian trade enjoyed by various countries. The United Kingdom's share of both exports and imports contracted a little. In so far as the export trade is concerned, this is the more regrettable because her quota had been increasing slowly but steadily in recent years. In 1934-35, however, it fell from 32.2 *per cent* to 31.6 *per cent*. The decline may be slight, but it is a decline nevertheless. On the import side, the reduction from 41.7 *per cent* to 40.6 *per cent* was also small, but a repetition of what happened between 1929-30 and 1932-33. In the latter year and again in 1933-34 there were increases. The most striking feature of the year was the improvement of Japan's position in regard to both exports and imports. Of the countries with which India has an appreciable volume of trade, Japan was the only one whose share of Indian exports increased. Moreover, the increase was substantial (from 8.5 *per cent* to 16.1 *per cent*) and followed a decline in the preceding year. The rise in her share of the import trade was not so large, being 1.5 *per cent* only; but it is significant nevertheless, since here again there had been a fall in the previous year, and apart from the United States of America, which gained to a negligible extent, Japan was the only country to achieve an advance under imports. Of the remaining countries, it is not necessary to consider any but the United States of America and Germany. The latter lost ground on both sides, by 0.1 *per cent* in imports and by 2 *per cent* in exports. Though the former's share on the import side rose very slightly (from 6.2 *per cent* to 6.4 *per cent*), it fell on the export side from 9.6 *per cent* to 8.3 *per cent*.

The principal commodities reflect much the same tendencies. The United Kingdom's share of the imports of cotton manufactures

increased from 58.8 *per cent* to 59.7 *per cent,* while Japan's declined from 35 *per cent* to 32.4 *per cent.* Under silk manufactures and artificial silk, however, while the United Kingdom's quotas respectively rose from 2.8 *per cent* to 5 *per cent* and fell from 11.3 *per cent* to 6.9 *per cent,* Japan's went up from 73.2 *per cent* to 74.6 *per cent* and from 57.1 *per cent* to 75.5 *per cent.* Other countries have only negligible shares in these items, except China and Italy, at whose expense Japan profited under silk manufactures and artificial silk respectively. In iron and steel, the United Kingdom suffered a very slight loss (0.1 *per cent*) and Belgium a larger one (1.5 *per cent*), while Germany gained to the extent of 0.9 *per cent*; but under machinery, the United Kingdom increased her share by 4 *per cent* at the expense of Germany and Belgium. The United Kingdom's contribution to the motor-car trade showed a marked falling off (from 48.3 *per cent* to 40.5 *per cent*), the difference being absorbed by the United States of America, whose contribution increased from 30.4 *per cent* to 41.3 *per cent.* Under sugar too, the United Kingdom suffered a set-back to the extent of 6.4 *per cent,* but in this instance the resultant advantage went chiefly to Java. On the export side, the United Kingdom's takings of raw cotton shrank from 12.7 *per cent* to 9.8 *per cent*; Germany's from 7.9 *per cent* to 3.9 *per cent*; and France's, from 5.8 *per cent* to 3.8 *per cent,* while Japan's expanded remarkably (from 39.6 *per cent* to 61.6 *per cent*). America's share of this trade is negligible. In raw jute also the United Kingdom's share declined, as did those of Germany and France; while in jute manufactures, though the same happened in the case of Germany, there was no change in the case of the United Kingdom or France. The United States of America's share of the latter commodity suffered contraction from 31.7 *per cent* to 28.4 *per cent,* but their share of raw jute exports remained unaltered. Under metals and ores, the United Kingdom's quota decreased from 48.1 *per cent* to 42.1 *per cent* and Germany's from 7.6 *per cent* to 6.8 *per cent,* but Japan's and France's increased by 4 *per cent* and 1.4 *per cent* respectively while the United States of America retained their 2.7 *per cent.*

On the basis of values, India had no balance, either favourable or unfavourable, against the United Kingdom in 1931-32 or 1933-34, but an adverse balance of Rs. 11 crores in 1932-33 and one of Rs. 5 crores in 1934-35. In regard to other British possessions, India's

favourable balance of Rs. 13 crores in 1933-34 declined to Rs. 11 crores in the year under review. Here too therefore she lost ground. Taking the British Empire as a whole, the favourable balance of Rs. 14 crores in 1931-32 suffered a serious set-back in 1932-33, when it fell to a mere Rs. 3 crores. It recovered to Rs. 13 crores in 1933-34, but in 1934-35 there was again a recession (to Rs. 6 crores). In the case of the United States of America, the adverse balance of Rs. 1 crore in 1932-33 was converted into a favourable balance of Rs. 7 crores in 1933-34. This dropped to Rs. 5 crores in the year under review. Japan has been steadily losing ground to India since 1932-33. In that year, the trade balance was Rs. 6 crores in Japan's favour, but it fell to Rs. 2 crores only in 1933-34. In 1934-35, this favourable balance was converted into an adverse one of double the amount, *i.e.*, there was a balance of Rs. 4 crores in India's favour. This is probably to be attributed to the Indo-Japanese Trade Agreement chiefly. On the basis of exports and imports of merchandise as a whole, there was a balance of Rs. 23 crores in India's favour. This represents a decline of Rs. 12 crores compared with the preceding year, in which there had been a marked increase.

Other Commercial Matters.

It remains to refer to certain other matters of commercial interest.

Rubber Restriction Scheme.

In view of the alarming fall in the price of rubber in recent years and the difficulties with which rubber producers were faced in consequence, representatives of the industry in the main rubber-producing countries, namely India, Ceylon, Malaya, British North Borneo, the Dutch East Indies, French Indo-China, Sarawak and Siam, formulated an international scheme for restricting the production, export and stocks of rubber. The main features of the scheme are that it should remain in force up to the 31st December 1938 in the first instance, the question of continuing it thereafter being reviewed by the Governments concerned; that during its currency exports of rubber should be limited to certain percentages of predetermined basic quotas; that imports should be prohibited except under licence; that the stocks held by owners should be restricted; and that planting and re-planting should be drastically reduced and limited. The replies to a referendum issued in India showed that an overwhelming majority of producers were in favour of the scheme. By virtue of their accession to the inter-Governmental agreement referred to, the Government of India were committed to obtaining

legislative sanction to the scheme and the Indian Rubber Control Act, 1934, was accordingly passed by the Indian legislature in September 1934. The Act itself did not come into force during the year under review, but the scheme was nevertheless given effect to from the 1st June 1934 by the issue of notifications under section 19 of the Sea Customs Act.

Ottawa Trade Agreement.

In pursuance of a recommendation made by the committee set up by the Legislative Assembly in November 1932 to consider the terms of the Ottawa Trade Agreement, a report on the working of that Agreement up to the end of the fiscal year 1933-34 was submitted by Government to a committee of the Assembly. The general conclusions of this committee, which submitted its report in August 1934, were that the United Kingdom had proved a steadier market for both preferential and non-preferential commodities than foreign countries in general; that the recent general tendency towards equality of the mutual trade between India and the United Kingdom had practically been established in the first year of the preferences; that the majority of the preferences enjoyed by India in respect of her more important exports had been of definite value to her export trade; that the preferences given by India had similarly been of definite assistance to the United Kingdom and where they had not led to increased trade, had at least tended to counteract factors operating in the opposite direction; that though the articles which enjoy preference on importation into the United Kingdom constitute the most important and stable part of India's exports, the preferences given by India had not adversely affected the Indian consumer or Indian revenues; that the import preferences had not proved detrimental to any Indian industry; and that on the whole the Agreement had resulted in mutual benefit to the contracting parties. A similar committee set up by the Council of State in pursuance of a Resolution adopted by that House in March 1933, submitted its report in September 1934 and recorded generally the same views.

Supplementary Trade Agreement between India and the United Kingdom.

Reference was made in the last year's report to the visit of the British Textile Mission to India. The Mission left India in October 1933 and on the eve of its departure the Government of India gave its Chairman an assurance that they would take an early opportunity of entering into discussions with His Majesty's Government with a view to clarifying the position in regard to protected articles about

which it had not been possible to negotiate a more precise understanding at Ottawa. Discussions took place accordingly in the United Kingdom and resulted in the signing, in January 1935, of a Trade Agreement which is deemed to be supplementary to, and co-terminous with, the Ottawa Trade Agreement. It sets out in precise terms the principles which have guided the Government of India's fiscal and tariff policy and practice since July 1923 as a result of a Resolution adopted by the Assembly and commits them to extending protection to such industries only as can establish claims thereto in accordance with the policy of discriminating protection laid down in the Resolution. It further binds them to afford to the industry concerned in the United Kingdom an opportunity of stating its case before the Tariff Board when the question of granting substantive protection to an Indian industry is referred to it. In the Agreement His Majesty's Government recognise that the economic well-being of India may demand the application of a policy of discriminating protection; that, in pursuance of that policy, the Indian industry concerned is entitled to adequate protection against all rivals and competitors whosoever they may be; and that the revenue needs of India must normally dictate the level of those duties which are not fixed upon a protective basis. The Agreement also requires His Majesty's Government to develop and stimulate the import into, and consumption in, the United Kingdom of raw cotton and semi-manufactured materials from India and to continue the privilege of duty-free entry of Indian pig iron into the United Kingdom so long as the duties on iron and steel articles imported into India are, subject to certain conditions, not less favourable to the United Kingdom than those provided for in the Iron and Steel Duties Act, 1934.

Denunciation of the Indo-Turkish Trade Agreement.

The Indo-Turkish Trade Agreement, which had hitherto governed commercial relations between India and Turkey and under which Indian goods were entitled to most-favoured-nation treatment in Turkey on terms of reciprocity, was denounced by that country on the 22nd November 1934, the denunciation becoming effective from the 22nd February 1935. This step was taken in pursuance of a policy of balancing overseas trade exchanges with individual countries adopted some time previously. Trade agreements with countries other than India were also denounced. The position

resulting from the denunciation has been receiving the careful consideration of the Government of India and endeavours are being made to safeguard India's export trade with Turkey as far as possible.

Import Duty on Wheat and Broken Rice.

The Wheat Import Duty (Extending) Act, 1934, which extended up to the 31st March 1935 the duty of Rs. 2 *per* cwt. on imported wheat and wheat flour, was repealed when the Consolidated Indian Tariff Act was passed in September 1934, the duties becoming an integral part of the Import Tariff schedule. The situation in respect of this commodity showed marked signs of improvement during the year under review and at the end, though Indian wheat was still out of parity with world prices, it was found possible to reduce the import duty on wheat and wheat flour from Rs. 2 to Rs. 1-8-0 *per* cwt.

Large imports of broken rice were discovered to be in serious competition with certain of the better grades of rice produced in Madras. This caused some alarm to Indian rice producers and the Government of India were obliged to impose a duty of twelve annas *per* maund on imports of broken rice of foreign origin.

Protection of Iron and Steel Industry.

In last year's report reference was made to the question of continuing protection to the iron and steel industry. The Tariff Board's report on the subject, received in April 1934, showed that the protection had been effective and that, in spite of the great falling off in the demand for steel products, the industry had made substantial progress, maintaining its output and greatly reducing its costs of production. The Board thought that the Ottawa Trade Agreement had been beneficial as regards pig iron and suggested that its continued free entry into the United Kingdom should be secured in return for a partly preferential protective duty on British galvanized sheets. It was of opinion, however, that the Supplementary Agreement of 1932 with the United Kingdom regarding iron and steel had served its purpose and should be abrogated. It considered that on the whole it was necessary to continue protection up to the 31st March 1941 to the branches of the industry which already enjoyed it and to extend it to certain other branches for a like period. The Government of India accepted these recommendations generally. They were given effect to in the Iron and Steel Duties Act, 1934, which came into force on the 1st of

November 1934. As they involved a very considerable reduction of import duties in certain important cases with resultant shrinkage in the customs revenue derived therefrom, it was found necessary to impose, as a revenue measure, an excise duty on steel ingots produced in British India. Countervailing customs duties corresponding to this excise duty were imposed on imported iron and steel articles. These countervailing duties are in addition to the protective duties recommended by the Board and alternative to the *ad valorem* revenue duties on articles in respect of which protection was not given.

Geneva Protocol on Arbitration Clauses and Convention on the Execution of Foreign Arbitral Awards.

During the year under review the Government of India decided to adhere to the Geneva Protocol on Arbitration Clauses, 1923, and the Convention on the Execution of Foreign Arbitral Awards, 1927, on behalf of British India. The Protocol lays down that each of the contracting States shall recognise submissions to arbitration which have been concluded between parties subject respectively to the jurisdiction of the various contracting States. The Convention supplements the Protocol by providing for the enforcement of arbitral awards made in foreign countries in pursuance of submissions to arbitration falling within the provisions of the Protocol. The adherence of British India was subject to the reservation that obligation under the Instruments will be limited to such contracts as are regarded as "commercial" under Indian law. The Instruments were signed on behalf of India on the 9th April 1935. Before they can be ratified, however, implementing legislation will have to be enacted and this matter is receiving attention.

Exhibitions and Fairs.

As in former years, India participated in a number of fairs and exhibitions abroad during the year under review. In addition to the annual British Industries Fair, the more important were the Aldershot Empire Show; the Dominions Industries and Trades Exhibition and Conference; the International Grocers' Exhibition, London; the Ideal Home, Food and Fashion Exhibition, Edinburgh; the Canadian National Exhibition, Toronto; the annual International Samples Fair, Milan; the Berlin Grocery and Cookery Exhibition; and the International Cookery Exhibition, Frankfurt-on-Main.

Registration and Certification of Accountants.

With effect from the 1st April 1932, a scheme for the registration and certification of accountants in India was introduced with the object of securing uniform control over the audit of the accounts of public companies and ensuring a high standard of professional quali-

fication amongst recognised accountants; also of developing an autonomous Association able to assume complete responsibility for maintaining a proper standard of qualification, discipline and conduct amongst its members. The scheme has made considerable progress. Nearly 470 persons have been enrolled in the Register of Accountants maintained under the Auditor's Certificates Rules. A large majority of these have been granted auditor's certificates entitling them to act as auditors of public companies. About 125 persons have also been included in the List of Approved Accountants and are thus authorised to take and train articled clerks. The theoretical examinations prescribed by the Auditor's Certificates Rules have been held since 1933 and while only the "first" examination was held in that and the following year, both the "first" and the "final" examinations were held in 1935. Recognition has also been accorded to certain institutions to prepare candidates for the "first" examination under the scheme.

The Indian Merchant Shipping (Second Amendment) Act, 1933.

The Government of India's ratifications of the International Convention for the Safety of Life at Sea, 1929, and the International Convention respecting Load Lines, 1930, were deposited on the 1st October 1934 and the Conventions came into force in British India on the 1st January 1935. The Government of India accordingly brought into operation on the latter date the provisions of the Indian Merchant Shipping (Second Amendment) Act, 1933, which, as mentioned last year, was enacted to give effect to these two Conventions. They also issued the necessary rules and orders and took other steps for the enforcement of the Conventions in this country.

The Indian Dock Labourers Act, 1934.

This Act which, as explained in last year's report, is intended to give effect in British India to the Draft Convention concerning the protection against accident of workers employed in loading or unloading ships, adopted by the International Labour Conference in April 1932, received the assent of the Governor-General on the 19th August 1934. Before its provisions can be brought into force and the Draft Convention ratified, detailed rules and regulations will have to be framed and certain other action taken. These matters were engaging attention at the close of the year under review.

Training of Marine Engineers in India.

Mention was made in our reports for 1929-30 and 1930-31 of a scheme for training Indians in Marine Engineering and of the award in 1929 and 1930, in pursuance of that scheme, of six scholarships,

each of £240 *per annum*, to Indian boys who were selected for the purpose and sent to the United Kingdom. Three more scholarships were awarded in 1931; but owing to financial and other considerations, the Government of India have abandoned this scheme and in its place sanctioned another which provides for practical training in India comparable in standard with that imparted in the United Kingdom and also for an appreciably greater output of trained engineers at much the same cost. Under the new scheme, which came into operation in January 1935, the Indian Mercantile Marine training ship " Dufferin " has been reorganised to provide preliminary training in Marine Engineering. Fifty cadets will be admitted to the ship annually, 25 for the Executive Branch and 25 for the Engineering Branch. The Government of India have also sanctioned the grant of 15 scholarships annually, each of the value of Rs. 50 *per mensem*, for engineering cadets passing out of the " Dufferin ", to cover the cost of their workshop service. They have in addition agreed to pay the fees for the cadets' theoretical instruction at evening classes in technical schools during that period.

CHAPTER III.

Finance.

Scope of Chapter.

This chapter will first attempt a brief sketch of monetary conditions, both abroad and in India, and will then give a more detailed account of India's financial position as revealed in the general and railway budget speeches made respectively by the Finance and the Commerce Members in February 1935.

International Situation.

The year under review saw some betterment in world conditions and quickening of international trade. The recovery, however, was unevenly distributed, some countries making marked progress, others, a little only and still others, none whatever. On the whole, those in the sterling group fared better than those in the gold *bloc*. The improvement might have been greater but for the fact that the international political situation was not such as to inspire that confidence in the future which assists trade revival. In the field of finance, the silver purchase policy of the United States of America forced up the price of that metal and led to a serious overvaluation of Chinese currency and, finally, to the virtual abandonment of the silver standard by China. In addition, gold-standard currencies were subjected to severe strain and both the franc and the belga developed weakness at times. Towards the close of the year, a large movement of funds from Belgium threatened the stability of her banking system and currency, and resulted, at the end of March 1935, in the adoption of comprehensive measures to save the situation. Among these were the devaluation of the belga by 28 *per cent* and the resumption by Government of control over the banking system. In Germany, the heavy imports of raw material from foreign countries in 1933 and early in 1934 gave rise to a weakening of the exchange position and the depletion of the gold reserves of the Reichsbank. In March 1934, drastic restrictions had been imposed on the importation of raw materials and semi-manufactured goods and later in the year this country proclaimed a moratorium on the transfer of the service of her external long-term and medium-term debts. Italy also introduced stringent control over foreign exchange in December 1934 in order to support the lira. Restrictions of various kinds on imports, designed either

to maintain the stability of currency or to promote economic self-sufficiency, were in force in several European countries and an increasing tendency towards bilateralism (*i.e.,* trade pacts between two countries only) marked the world trade of the year.

Situation in India.

Agricultural and economic conditions in India have already been described in some detail in the preceding chapter. Briefly, it may be said that, on the whole, the monsoon was normal in incidence and distribution and both trade and industry did slightly better than in the previous year. Wholesale prices for practically all commodities showed commendable steadiness and most of the important agricultural products fetched somewhat higher prices. Prices generally, however, remained at a low level. Exports of gold were once more considerable, and including them, there was a trade balance of Rs. 76 crores in India's favour. Politically, the country continued quiet and money too remained easy, the bank rate again standing at 3½ *per cent.* All these factors made for a better situation.

The improvement in the Government of India's general financial position mentioned last year, was maintained. There were again large purchases of sterling and consequent strengthening of the reserves, facilitated by sustained exports of gold, and further reduction in the borrowing rate for both loans and treasury bills. The year saw several records established in the latter respect. Of the two loans raised during the period under review the second gave a redemption yield of no more than 3.16 *per cent* and bore the nominal interest of 3 *per cent,* a rate not attempted for 38 years. Post Office cash certificates had a similar experience, the yield having been cut down to 3.3 *per cent* at the beginning of the year and to only 3 *per cent* in December—the lowest since the issue of cash certificates was initiated in 1917. Finally, the average rate at which temporary accommodation was secured by means of treasury bills fell to 1.58 *per cent,* the lowest level touched being 0.69 *per cent*—a point not reached at any time in the past. National credit stood high and the conversion operations of Government were attended with marked success. India's position in regard to foreign payments also continued favourable.

Gold Exports.

Although the exports of gold from India continued on a large scale throughout the year under report, the total amount exported was somewhat less than in 1933-34. The net exports of gold during

1934-35 were valued at Rs. 52,54 lakhs as against the Rs. 57,05 lakhs of the previous year. In all, about 29,210,679 ounces of the metal have been exported in the last four years, that is to say, approximately 58 *per cent* of the gold imported since 1920-21. Taking into consideration the very large imports prior to 1920-21, only a small fraction of India's total gold hoardings has been realised so far.

Price of Silver.

The more important events which affected the price of silver during the year were the silver legislation in, and the heavy purchases by, the United States of America, the levy of an export duty on silver by China and the reduction of the import duty in India. Mention must also be made of the prohibition by the Government of India, in May 1934, of duty-free imports through the land frontiers of Persia and Afghanistan, which gave rise to unfair competition in the Bombay market. The lowest price *per* standard ounce of the metal in London was 18 $\frac{3}{16}$*d.* in May 1934; and the highest, 28$\frac{7}{8}$*d.* in March 1935. In Bombay the lowest price *per* hundred tolas was Rs. 50-12 also in May and the highest Rs. 67-12 in November. This last figure would certainly have been exceeded in March but for the reduction in the Indian import duty.

Exchange Rate and Remittances to London.

As regards exchange and remittances to the Secretary of State, the total amount of sterling purchased during the year amounted to £37,542,000 against the budget requirement of £27,700,000, the average rate being 1*s.* 6.086*d.* compared with 1*s.* 6.071*d.* in the preceding year. The weekly offer to purchase one million sterling by tender was again maintained throughout the year without interruption, although an entire absence of tenders marked parts of May, June and July. Exchange was steady at 1*s.* 6 $\frac{1}{16}$*d.* at the beginning of the year and stood at 1*s.* 6$\frac{3}{32}$ *d.* at its close. Except for three days in May, when it dropped to 1*s.* 5 $\frac{31}{32}$*d.*, it was either at or about parity, attaining comparative strength in the busier months of April and January to March and displaying comparative dulness during the slacker months. As in the 2½ years immediately preceding, the continued export of gold helped the exchange position while the decline in the year's visible balance of trade did not seem to affect it in the least.

Money Conditions in India.

When the year opened, the bank rate was 3½ *per cent* and it remained at that level throughout. This is the second successive

year since the inauguration of the Imperial Bank in which no change has been made in the bank rate, an event unprecedented in the annals of Indian banking. The complete absence of fluctuation reflects the general slackness in trade demand, the prevailing low level of commodity prices, the release of frozen credit caused by the sale of gold, and, to some extent, the feeling of ease induced by expansions of currency which marked the year. The cash balance of the Imperial Bank rose gradually from about Rs. 12 crores at the beginning of the year to nearly Rs. 29 crores at the end of August, remained in the vicinity of Rs. 28 crores for the following three months and then fell rapidly to Rs. 15 crores during the succeeding three. It soared again suddenly to Rs. 23½ crores at the close of the year as a result of the expansion of currency and the receipt of the Reserve Bank share of money in the month of March.

Public Debt.

Two rupee loans were floated during the year. The first took the form of a second issue of the 3½ *per cent* loan, 1947-50, floated in April 1933; with the issue price raised from Rs. 96 to Rs. 98-8 *per cent*. The lists were opened for subscription on the 5th June and it was announced that the loan would be closed without notice as soon as it appeared that the total subscriptions amounted approximately to Rs. 32 crores (nominal value) and in any case not later than the 20th June. Although general market conditions shortly before the floatation of the loan were definitely favourable and large conversion applications were received during the first few days after the lists opened, the subsequent progress of the loan was slow. Moreover, sales by speculative interests induced a bearish feeling in the market and caused the issue to be quoted at a small discount. In the circumstances, the total subscriptions of Rs. 25.13 crores were not unsatisfactory and the operation may be regarded as having fulfilled its object, namely, the conversion of substantial amounts not only of the 1934 bonds, which fell due for repayment on the 15th September, but also of the 1934-37 loan, which was notified for discharge on the 16th August.

The second loan was a 3 *per cent* issue liable to income-tax and redeemable at par on the 15th September 1941. This was the first loan bearing the nominal interest of 3 *per cent* issued since July 1896. Its issue price was Rs. 99 *per cent*. When it was floated, market conditions indicated that a short-term issue would be received

more favourably than a long-term one and that such a loan with as low an yield as 3.16 *per cent per annum* would probably be successful. The level of security prices was high, but although money was comparatively easy, the actual surplus available for fixed investment was not very large. In view of these facts, the amount subscribed, nearly Rs. 10¾ crores, was satisfactory. It was also entirely adequate for the redemption of the 4½ *per cent* bonds, 1934. The 4½ *per cent* bonds 1934 and 4 *per cent* loan 1934-37 were notified for discharge in this year. The amount of these rupee loans outstanding after the conversion operations was Rs. 11,87 lakhs. Of this, as much as Rs. 11,74 lakhs were repaid.

No sterling loan was either floated or repaid during the year.

Price of Indian Securities.

The continuance of easy money conditions in India and the lead given by gilt-edged securities in London resulted in a more or less steady rise in the price of Indian scrip during the first ten months of the year; but the London lead, in sympathy with the international political situation, caused a set-back in the last two months. This is illustrated by the actual figures. At the beginning of the year 3½ *per cent* paper was quoted at Rs. $89\frac{7}{16}$. Its price declined gradually to Rs. 87½, the lowest level of the year, in June. Thereafter it improved steadily till January 1935, when it reached its maximum, Rs. 98¾. But from that point it began to fall again and stood at Rs. 90 at the close of the year.

The General Budget. Final Results of 1933-34.

In introducing the budget for 1935-36, the Hon'ble Sir James Grigg said : " I begin by setting out the final results of the year 1933-34. When my predecessor presented his budget last February, it was anticipated that, after a provision of Rs. 3 crores had been made for debt reduction, the year 1933-34 would close with a surplus of Rs. 1,29 lakhs. The actual figure is Rs. 2,72 lakhs. . . . . My predecessor announced that the surplus would be carried to a suspense account and utilised for financial assistance in connection with the (Bihar) earthquake. . . . . So far as it is possible to judge at present, this liability will not amount to a very large sum, but in order to have a margin for unforeseen contingencies we propose to retain in the suspense account a total sum of Rs. 2,10 lakhs. This leaves Rs. 62 lakhs to be carried forward to fortify the balances of the current year.

Summary of Results of 1934-35.

" I now turn to the current year 1934-35. Our revised forecast shows a material improvement over the original budget anticipations and the surplus is now expected to be Rs. 3,27 lakhs instead of Rs. 10 lakhs. The difference is made up of an improvement in revenue of Rs. 3,87 lakhs and a deterioration of Rs. 70 lakhs in expenditure. . . . . On the revenue side the surplus is in the main due to customs, etc., the principal items being sugar, Rs. 1,38* lakhs; cotton fabrics Rs. 90 lakhs and yarn and textile fabrics other than artificial silk Rs. 80 lakhs. . . . . Apart from customs, etc., the only revenue item I need mention specifically is interest. Here, although the head discloses an increase of Rs. 26 lakhs only, this is made up of a considerable reduction of rupee, combined with a somewhat greater increase of sterling, receipts. . . . . The main part of the increase of Rs. 70 lakhs in expenditure is due to the allocation to Bengal, Bihar and Orissa and Assam of a larger share of the proceeds of the jute duty than was originally provided for. . . . . On the expenditure side too it is necessary to mention the interest heads. Again they show little variation as a whole but there is an excess on ' Other Obligations ' because of Provident Fund and Post Office Savings Bank deposits being higher than anticipated and of an increase in the amount of accrued bonus on cash certificates; and there is a saving on ' Ordinary Debt ' owing to the non-payment of the Rs. 58 lakhs due to the United Kingdom on the 1st December 1934 on account of the outstanding War Loan liability. . . . .

" On the figures which I have so far explained to the House, we shall, at the end of March next, have in hand two surpluses, one for 1933-34 of Rs. 62 lakhs and one for 1934-35 of Rs. 3,27 lakhs making Rs. 3,89 lakhs in all. I shall return to the disposal of this amount later but in the meantime I turn to the estimates for the coming year 1935-36.

Budget of 1935-36. Revenue.

" The total revenue, excluding Railways, may be put at Rs. 90,19 lakhs or Rs. 81 lakhs less than the revised estimate for the current year." In regard to customs, *etc.*, the Finance Member explained :— " Here I estimate for Rs. 51,92 lakhs altogether or an increase of Rs. 75 lakhs over the revised figures for the current year. The

*This figure is net, *i.e.*, it covers an increase of Rs. 1,70 lakhs in the import duty yield and a decrease of Rs. 32 lakhs in the revenue from the excise duty.

main variations are a decline of Rs. 2 crores in the import duty on sugar combined with increases of Rs. 35 lakhs on the sugar excise, of Rs. 65 lakhs on the match excise and of Rs. 43 lakhs on kerosene and petrol. . . . . During the current year there has been an undoubted improvement in the financial position of some of the more important industries, but this improvement will only be partially reflected in our income-tax returns for 1935-36. I therefore estimate for an improvement of no more than Rs. 51 lakhs and of this Rs. 16 lakhs is due to the additional tax recovered from Government servants on account of the restored pay-cut. . . . . Our estimate under opium is Rs. 61 lakhs as compared with Rs. 71 lakhs for the current financial year. . . . . Interest shows a very large reduction amounting to Rs. 1,29 lakhs, which is of course due to the transfer of the currency functions and, therefore the reserves, of the Government of India to the Reserve Bank. It is true that as against this we shall get the surplus profits of the Bank, but in the first year instead of getting a full year's interest on the assets in our various reserves and balances, we shall only get a part year's dividend from the profits of the Bank. We have included Rs. 50 lakhs on this account under the head ' Currency ' but the receipts here still show a drop of Rs. 11 lakhs owing to the lower rates prevailing for short-term money.

Expenditure.

" Expenditure as a whole, again excluding Railways, stands at Rs. 88,69 lakhs showing an increase of Rs. 96 lakhs which is of course almost entirely due to the restoration of the pay-cut. . . . . There is, as I have said, a set-off against this in the form of extra income-tax to the extent of Rs. 16 lakhs. Apart from the pay-cut, there are only minor increases, most of them on new services, *e.g.*, the marketing scheme, grants to the handloom and sericultural industries, the new Dairy Institute and the Institute of Industrial Research. There is also a small increase on Defence and a deficit on Posts and Telegraphs, which is, however, more than explained by the abolition of the pay-cut. . . . . There is only one other item which I wish specifically to mention at this stage and that is the provision for the reduction and avoidance of debt. As Hon'ble Members are aware, our revised estimates for 1933-34 and those for the current financial year included only Rs. 3 crores for this purpose. It is of course a matter of common knowledge that 60 *per cent* of the Government of India debt is

attributable to the Railways and it seems to me that it would be imposing too heavy a burden on the general budget to revert to the Sinking Fund arrangements in force prior to 1933-34 before the Railways have resumed the practice of making a contribution to the General Revenues. I therefore accept as reasonable for the time being the provision of Rs. 3 crores now prevailing. . . . .

Comparison with Previous Years.

" It is interesting here to compare the budget expenditure, actual or estimated as the case may be, for the years 1931-32 onwards and in order to get a fair basis of comparison, I deduct in every case the provision for debt reduction and avoidance and take net figures for Interest, Posts and Telegraphs and Defence :—

1931-32.	1932-33.	1933-34.	1934-35.	1934-35.	1935-36.
Actual.	Actual.	Actual.	Budget.	Revised.	Budget.
88,78	80,59	75,97*	78,12	78,53	80,06

The lowest year was 1933-34. The estimate for 1935-36 shows a net increase from this low level of Rs. 4,09 lakhs. Of this, Rs. 1,79 lakhs is due to the grant of a share of the jute duty to Bengal, Bihar and Orissa and Assam, Rs. 1,30 lakhs is due to the increased provision for bonus on Cash Certificates and Rs. 1,08 lakhs represents the cost of restoring the second half of the pay-cut. Apart from these changes the remarkable economies made in Defence and other charges have not only been maintained but extended.

Summary of Position for 1935-36.

" The final position for 1935-36 is thus as follows :—

Revenue	..	Rs. 90,19 lakhs.
Expenditure	..	Rs. 88,69 lakhs.
Surplus	..	Rs. 1,50 lakhs.

Ways and Means.

. . . . " I shall turn aside to deal briefly with the ways and means position. . . . . The assets of the Currency Department will be transferred to the (Reserve) Bank with effect from the 1st of April 1935. From that date the Reserve Bank will be responsible for the maintenance of the currency, for the investment of the currency reserves in rupees and sterling and for supplying the Secretary of State with sterling for his London requirements.

*Excludes Rs. 2,72 lakhs transferred to the Earthquake Fund.

The effect of this on our ways and means estimates will be twofold. In the first place, once the new system is in full operation the Secretary of State will not maintain a larger balance in London than is necessary for his day-to-day transactions with the Bank of England. . . . . For this reason you will see that by the end of the next year we have provided for the reduction of his balance to a nominal amount of £500,000. . . . . The second change is consequent on the creation of a Silver Redemption Reserve. . . . . This Reserve is required mainly to meet the liability imposed by section 36 of the Reserve Bank Act. . . . . It was originally intended that the Reserve should be gradually built up to a maximum of Rs. 10 crores. . . . . Owing to the large remittance which it has been possible to make during the current financial year, the balances at the disposal of the Secretary of State will now be sufficient to enable the Fund to be constituted with the full amount of Rs. 10 crores with effect from the 1st of April 1935. The ways and means forecast for the current financial year provided for the purchase of sterling to the extent of £26.7 millions. According to our latest estimate the total should reach about £39 millions, but this figure is of course liable to modification. If the estimate is realised, we should be able not only to set aside the Rs. 10 crores required for the Silver Redemption Reserve but also to increase by about Rs. 14 crores the external assets held as security for the note issue. The increase in our estimate for remittance is, needless to say, largely accounted for by the strength which the continuance of gold exports has given to the exchange. . . . .

Provincial Require-ments.

" The revised estimate here (for provincial requirements) shows a reduction from Rs. 6,25 lakhs to Rs. 4,40 lakhs, but we have provided in our forecast for 1935-36 for an increase to Rs. 10,82 lakhs, owing to the fact that we have decided to finance the repayment of the Bombay Development Loan, 1935.

Loans.

" Last year my predecessor estimated that at the end of the financial year the amount of treasury bills outstanding with the general public would be about Rs. 30 crores. The actual figure on the 1st of April 1934 was Rs. 33.31 crores. In addition, treasury bills held in the Paper Currency Reserve amounted to Rs. 25.93 crores. The figures for the 31st March 1935 are expected to be Rs. 22 and Rs. 27½ crores respectively. After the transfer on the

1st of April 1935 of the assets in the Paper Currency Reserve to the Reserve Bank, all treasury bills will be shown under one head. On this basis the figures for the beginning and end of the year 1934-35 are Rs. 59.24 and Rs. 49½ crores respectively and in our forecast for the coming year we have anticipated a further reduction to Rs. 46 crores.

Borrowing Programme.

. . . . " Next year we shall have to provide for the repayment of Rs. 16 crores of 6½ *per cent* Treasury Bonds, 1935, and Rs. 11.4 crores of 5 *per cent* Bonds, 1935. We have also the option of repaying £11.9 millions of 6 *per cent* Sterling Bonds, 1935-37 and £3½ millions of East Indian Railway 4½ *per cent* debenture stock, 1935-55. The total amount of loans which we can repay or convert is thus approximately Rs. 48 crores. In addition to this we are, as I have just said, providing for the repayment of the Bombay Development Loan, 1935, and we expect to reduce the total amount of treasury bills outstanding by a further Rs. 3½ crores. Allowing for a remittance of £26 million we anticipate that we could meet all these liabilities without raising more than Rs. 25 crores by fresh borrowing, ...

Disposal of Surpluses.

" I now come to our proposals both in regard to the balance of Rs. 3,89 lakhs which we expect to have at 31st March next and to the surplus of Rs. 1,50 lakhs which we estimate for 1935-36. The former is of course non-recurrent and is only available for non-recurring purposes. The latter represents the maximum limit of the sums which can be devoted to tax-reduction during the year 1935-36.

" To take the non-recurrent balance of Rs. 3,89 lakhs first, we consider that the needs of the rural areas should have the first claim on this and we have decided to set aside a sum of Rs. 1,00 lakhs for distribution to the provinces to be spent on schemes for the economic development and improvement of such areas. . . . . Local Governments could only devote very inadequate funds to those purposes and in the recent years of crisis and retrenchment it has been impossible for any Local Government to find money for new projects, however likely they were to contribute to the prosperity of the province. We feel therefore that now when the Central Government fortunately happens to have balances on which it can draw, we cannot do better than make some share of it

available to the provinces to carry out schemes which have been held up and thereby show that the Government of India have a very deep concern with the welfare and prosperity of the cultivators and are prepared to help Local Governments to carry out schemes for their benefit. . . . . We also propose to make a special contribution of Rs. 40 lakhs to the Government of India's reserve in the Road Development Fund. There is obviously great scope for expenditure on road development, and I am very glad to be in a position to supplement the somewhat exiguous resources of the Road Development Fund reserve. . . . . A further sum of Rs. 25 lakhs we propose to set aside for schemes of development in the North-West Frontier Province. Most of this will be spent on the construction of roads in the tribal areas, and the remainder will be devoted to schemes of economic development in that area. I wish to make it clear that we have no intention of implementing this policy by force or without the consent of the tribes in whose territory the roads will be constructed. . . . . The last item of special expenditure which I have to mention in this connection is a provision of Rs. 20 lakhs for the development of Broadcasting. . . . . Broadcasting is of course an immensely important factor in the intellectual and cultural development of a country and India cannot afford to fall too far behind in this matter. After these special grants have been made, there should remain a balance of Rs. 2,04 lakhs. A large part of this sum I propose to put aside for two schemes which it was provisionally decided to finance from capital. These are the civil aviation programme, which is expected to cost Rs. 93 lakhs, and the transfer of the Pusa Institute to Delhi, which will cost about Rs. 36 lakhs. . . . . The remainder of the surplus amounting to Rs. 75 lakhs will now go as an additional allotment for the reduction of debt. . . . .

" We can now turn to next year and the surplus of Rs. 1,50 lakhs available for tax reduction. But I must first mention three items which though they do not appreciably affect the financial position are nevertheless of some importance. The first of these is the additional import duty on salt. . . . . I was disposed to think that the duty ought to be abolished at once but that would perhaps have been a little harsh to the vested interests which have grown up and I shall therefore propose to the House that the duty shall be extended for one year, without prejudice to any action which

Government may see fit to take at the end of that year. . . . . The next is silver and here we propose to reduce the duty to 2 annas an ounce. . . . . There is no doubt that at the present level the duty is encouraging smuggling. . . . . At the lower level which we now propose smuggling should become unprofitable and the honest trader will come into his own. I propose to assume that we shall get the same yield from the 2 annas as would have been obtained from the 5-anna duty. . . . . The third change of a minor order is the abolition of the export duty on raw skins. . . . . The change will take place as from the 1st April and the loss of revenue will be Rs. 8 lakhs. We still have Rs. 1,42 lakhs left to dispose of and I propose to do this in accordance with the pledge of my predecessor in which he said ' Relief must come first in restoring the emergency cuts in pay and secondly in taking off the surcharge on the income-tax now to be imposed.' Although the tax on smaller incomes was not strictly a surcharge, it does, I think, come within the spirit of the pledge and I propose to deal with it and the surcharges on income-tax and super-tax together. The removal of the surcharges altogether would cost Rs. 3,34 lakhs a year, while the removal of the tax on incomes between Rs. 1,000 and Rs. 2,000 would cost a further Rs. 75 lakhs. Clearly with a surplus of Rs. 1,42 lakhs only we cannot remove the whole of the two surcharges and the quasi-surcharge, but what we can do is to reduce them all by one-third and this is what I in fact propose. The cost will be Rs. 1,36 lakhs leaving us with a purely nominal surplus of Rs. 6 lakhs."

Railway Budget.

As the income from railways forms a very large part of the revenues of India and as railway finances are separate from general finances, it is necessary to quote from the Commerce Member's speech on the railway budget to complete the picture of India's financial position. After referring briefly to the adverse conditions of the slump period, the improvement that had commenced in 1933-34 and certain other matters, Sir Joseph Bhore went on to say :—

Financial Results of 1933-34.

" The Administration Report of Railways for 1933-34 has been in the hands of members for some time, and it is unnecessary for me to deal at length with the results of that year. . . . . The actual deficit for the year, shown in our accounts, was just under Rs. 8 crores. It would have been about half a crore less but for the

fact that, owing to holidays at the end of the financial year, a portion of our earnings for the year 1933-34 could not be credited in our accounts until the following year.

Revised Estimates for 1934-35.

" In presenting the budget for 1934-35 we estimated a deficit of Rs. 5¼ crores, including our loss on strategic lines. For the first time in recent years I am glad to be able to say that the results we have already achieved justify us in the hope that the year will end appreciably better than we anticipated. The improvement in our traffic receipts has been larger than we allowed for, and, including the Rs. ½ crore transferred from last year to the current year, we now estimate our total traffic receipts at Rs. 90¾ crores, against Rs. 89 crores originally budgeted for. The working expenses have also increased but to a smaller extent—roughly half a crore. We now estimate our net revenue, taking into account our miscellaneous receipts and expenditure, at about Rs. 27½ crores instead of Rs. 26¾ crores, as originally anticipated. The interest charges are a trifle less than we provided and our net deficit has been reduced from Rs. 5¼ crores to Rs. 4¼ crores, of which commercial lines account for about Rs. 2⅓ crores. This will be met, as in previous years, by a temporary loan from the depreciation fund, the actual balance of which at the end of the financial year will be Rs. 11 crores against Rs. 9½ crores at the beginning of the year. . . . .

" While the traffic receipts in the current year, making allowance for the transfer of half a crore from earnings from last year to the current year, are about Rs. 3¼ crores more than last year, our increased working expenses (excluding depreciation) are expected to be less than Rs. ¾ of a crore higher. Most of this increased expenditure is due to the necessity for heavier repairs to all kinds of railway assets, including permanent way, buildings, rolling-stock and equipment. . . . . There is, further, the additional cost of coal, staff, etc., required for moving the additional traffic we obtained. All told, however, the estimated increase in working expenses is less than a quarter of the estimated increase in receipts. I gave to the House last year a brief account of the damage caused by those disastrous convulsions of Nature, the Bihar earthquake and the sudden floods in the river Ganges which not only damaged, but threatened with destruction, the protection works of the Hardinge Bridge on the Eastern Bengal Railway. We had little material at

the time to frame an accurate estimate; . . . . We now anticipate that, during the three years 1933-34 to 1935-36, we shall require about Rs. 82 lakhs for the repair of earthquake damages and Rs. 137 lakhs for the Hardinge Bridge protection works. . . . .

Budget Estimates for 1935-36.

"Our total estimate of traffic receipts on State lines next year is Rs. 93½ crores, against Rs. 90¾ crores this year, which latter figure includes the half crore I have referred to as due to purely adventitious circumstances. Our total working expenses, including depreciation, are expected to amount to Rs. 64½ crores. Including miscellaneous receipts of Rs. ¾ crore, our net revenue will be Rs. 29¾ crores; interest charges will be just under Rs. 31¾ crores, and our deficit will thus be Rs. 190 lakhs. A loan of this amount from the depreciation fund will be required with the result that the fund will show an actual balance of Rs. 13 crores at the end of the year. Our estimated deficit of Rs. 190 lakhs has been arrived at after providing for a deficit on strategic lines of Rs. 197 lakhs. On commercial lines alone, therefore, we expect that we shall be able just to balance our budget, our estimate of the final result being a small surplus of Rs. 7 lakhs. . . . . . During 1935-36, the amount that we have to set aside for depreciation will be Rs. 13¼ crores, about Rs. 45 lakhs less than during the current year. . . . . .

" I have in previous years expressed my confidence in the essential strength and soundness of the financial position of Indian Railways notwithstanding the successive deficits since 1930-31. The results of the last year and the estimates which I am placing before the Assembly to-day have, I make bold to claim, justified that optimism. A review of results, if it is to be of any value, must extend over a sufficiently lengthy period to eliminate the distorting effects of temporary causes and give a true picture of the whole. Taking broad results, it will be seen that in the 12 years ending with 1935-36, 6 years of prosperity and 6 of adversity, the net results of the working of all State-owned lines, commercial and strategic, will, if our present estimates prove correct, be a surplus of Rs. 14 crores and an accumulated balance in the depreciation fund of Rs. 41½ crores. In other words, during this long period of varying fortune, we shall have earned a net income of over a crore a year after

meeting working expenses, providing for accruing depreciation and paying interest in full on borrowed capital.

Capital Expenditure.

. . . . "We are providing Rs. 15 crores (for works expenditure) of which Rs. ¼ crore is for new construction and Rs. 44 lakhs for the purchase of the Amritsar-Patti-Kasur Railway. . . . . On improvements of the open line, we expect to spend the balance of Rs. 14¼ crores. In order to meet the larger traffic expected, we are purchasing about 5,000 wagons of which 4,250 will be general service wagons to be added to our pool. The total cost of these wagons is expected to be Rs. 2¼ crores. Of new works, I need mention only a few. The construction of the Megna Bridge on the Assam Bengal Railway is a work of great importance as ensuring uninterrupted communication between eastern Bengal and Assam. The extension of the electrified suburban section of the Bombay, Baroda and Central India Railway from Borivli to Virar will not only be of great convenience to the public, but is expected to be highly remunerative. There is a third project for which we are providing a small sum but which it has not yet been definitely decided to build, *viz.*, the Karaikudi-Melur-Madura line in southern India. It appears likely from a detailed examination to be sufficiently remunerative to warrant construction. . . . ."

CHAPTER IV.

Communications.

Scope of Chapter.

As in previous years, we shall deal in a single chapter with India's chief means of communication—railways, roads, posts and telegraphs, wireless stations and air services.

Railways. General Administration.

The financial position of the railways is reviewed in chapter III; we shall therefore confine ourselves here to questions of administration. In order to give an idea of the magnitude and importance of the railway system, it may be mentioned that the total capital at charge on all lines amounted to Rs. 885.47 crores, of which the major portion (Rs. 795.44 crores) belonged to State-owned concerns. The total length of open lines at the end of 1934-35 was just over 43,000 miles, while another 139 miles were under construction. Rolling stock consisted of 9,056 steam and 75 electric locomotives, 118 motor coaches, 20,708 passenger carriages and 205,716 goods wagons excluding brake vans and special wagons. Nearly 496.6 million passengers and slightly more than 84.5 million tons of goods were carried during the year, yielding gross incomes of Rs. 30.35 crores and Rs. 64.35 crores respectively. The total income, however, was Rs. 102.81 crores, the difference representing earnings on parcels, luggage, *etc.* On class I railways 671,886 persons were employed at a cost of Rs. 35.22 crores. The traffic handled and the earnings therefrom show an increase over the previous year's figures and this reflects the improvement that is taking place in economic condition.

Perhaps the most important administrative decisions of the year were two relating to pay. Following the action taken in respect of other Government servants, it was decided that the emergency deduction from pay would not be re-imposed after the 31st March 1935. Company-managed railways agreed to follow suit. Revised and reduced scales of pay for new entrants into their subordinate services were introduced by the various railway administrations. The ultimate savings expected to accrue from the new scales for both the superior and the subordinate staffs on State-owned railways is estimated roughly at Rs. 3¾ crores *per annum.*

This will be worked up to gradually in the course of the next 30 years or so.

The Hours of Employment Regulations, which resulted from the Washington and Geneva Convention, have already been given statutory effect to on four of the State-managed railways, *viz.*, North-Western, East Indian, Great Indian Peninsula and Eastern Bengal. The question of applying them to the Burma Railways and Company-managed railways continued to engage the attention of the Railway Board during the year, with particular reference to the Madras and Southern Mahratta and the Bombay, Baroda and Central India Railways.

The Board issued orders to the Agents of State-managed railways, with an invitation to the Agents of Company-managed railways to adopt a similar procedure, in respect of certain minor recommendations of the Royal Commission on Labour, particularly those relating to leave rules, the raising and recovery of debits, indebtedness and the health and welfare of industrial workers. The Commission's recommendations regarding the establishment of joint standing machinery for the settlement of disputes on railways and cognate matters, such as the grant of facilities to recognised Unions, were also under consideration, but final decisions were not reached during the period under review.

Of the 21 appointments made to the superior services on State-managed railways during 1934-35, 8 went to Europeans and 13 to Indians. In order to obtain, during the years 1934-35 and 1935-36 taken together, the percentages of 25 and 75 which have been followed for several years past in recruiting Europeans and Indians to these services, it was decided not to appoint any more Europeans but to select 4 Indians for the Indian Railways Service of Engineers and 8 Indians for the Transportation (Traffic) and Commercial Departments in 1935-36. On Company-managed railways, 39 officers were appointed to the superior services, of whom 13 were Europeans and 26 Indians. Though some of these railways took Indians only, a few did not obtain the proportion of 75 *per cent* fixed for Indians. The question of addressing these railways in the matter is receiving attention.

Another event of great importance in the administrative field was the issue by the Government of India, in July 1934, of orders regarding communal representation in the All-India and the Central

Services. In pursuance of these orders, the regulations for recruitment to the superior State-railway services were modified so as to reserve 25 *per cent* of the vacancies filled by direct recruitment for Muslims and $8\frac{1}{3}$ *per cent* for other recognised minorities. Company-managed railways (except H. E. H. the Nizam's and the Jodhpur Railways) were asked to adopt these percentages in recruiting for their respective superior services. In regard to the subordinate railway services, it was decided that 25 *per cent* of all vacancies filled by direct recruitment on class I railways as a whole (excluding the Burma, H. E. H. the Nizam's and the Jodhpur Railways), should be reserved for Muslims, 8 *per cent* for Anglo-Indians and domiciled Europeans and 6 *per cent* for other recognised minority communities, provided candidates possessing the minimum qualifications necessary are available. Detailed but different percentages were also worked out for each railway, in the light of the population ratios of the areas served by it, so as to give the over-all percentages of 25, 8 and 6 for all class I railways taken together. It was also made clear to the railway administrations that the future recruitment of Anglo-Indians and domiciled Europeans must take place in the categories or departments in which they are already principally employed. The orders were made applicable to both permanent and temporary vacancies on State-managed railways (excluding subordinate staff of the Burma Railways), while Company-managed railways (excluding H. E. H. the Nizam's and the Jodhpur Railways) were asked to adopt the percentage fixed for them.

During the year 1934-35, the courses of instruction at the Railway School of Transportation, Chandausi, were on much the same lines as in the previous year. Two fresh courses, *viz.*, Commercial Refresher (for coaching staff only) and special Telegraph Instructors' course, were started; and owing to a heavy demand for probationary Assistant Station Masters, the number of students to be trained was increased. The Walton Training School, Lahore Cantonment, continued the training of staff for the North-Western Railway. Here too refresher courses for Permanent Way Inspectors, Train Examiners, Guards and Locomotive staff suitable for promotion to Locomotive Inspectors were introduced. The School now supervises the theoretical and practical training of all probationers and is of great use in improving the efficiency of operation.

For the railways, 1934-35 was a more fortunate year than the preceding one in that there was no disaster of the magnitude of the earthquake of January 1934 to reckon with; though the encroachments of the Kosi river necessitated the provision of a substantial protective apron at Katarea in Bihar and the relaying further inland of the railway line near Kursela on the Bengal and North-Western Railway. At the Hardinge Bridge, the Ganges rose unusually high during the flood season and caused some anxiety by its attacks on the right guide bank. Such damage as occurred, however, was repaired before it became serious. During the cold weather, the extra protection works, which experience showed to be desirable, were completed. As a result of the growing competition from road-motor services, the chief investigation work undertaken during the year was the revision of the traffic estimates of lines projected in earlier years. The construction of five sections of new line, aggregating about 101 miles, was begun, the most important being the Jhudo-Pithoro Railway (64 miles), which is intended to serve part of the area watered by the Lloyd Barrage irrigation scheme in Sind. Among other works approved may be mentioned the provision of a bridge over the river Meghna near Bhairab Bazar in place of the wagon ferry which now connects Assam with Eastern Bengal and the remodelling of the railway workshops at Jamalpur and Jhansi. The conversion of the Shoranur-Cochin Railway was completed and now permits of goods being despatched to the new harbour at Cochin without break of gauge at Shoranur.

Constructional Work.

During the year under review 46 locomotives, 948 coaching underframes and 4,538 goods wagons for broad and metre gauge lines were on order for State-owned railways; and the value of stores obtained through the Indian Stores Department rose to Rs. 2.65 lakhs. A large number of items were again added to the list of articles which State-managed railways have to purchase through this Department.

Purchases and Stores.

There was no wholesale revision of either passenger fares or goods rates during the year, though alterations were made on individual railways. For instance, the Great Indian Peninsula Railway reduced third-class fares by both mail and ordinary trains for journeys between 51 and 150 miles increasing them slightly for journeys of more than 300 miles. They also abolished the distinction between third-class mail and ordinary fares in the case of passengers

Alterations in Rates and Fares.

booked through from or to another railway. The Eastern Bengal Railway introduced, as an experimental measure, third-class ordinary return tickets costing one and two-thirds of a single fare, the period of availability varying from 2 to 18 days according to distance. Most of the railways continued to quote special rates for fresh fruit in wagon loads so as to facilitate long-distance movement. Reduced or special rates were also charged for commodities like rice, wheat, cotton and sugarcane, the object being to encourage the transportation of such goods by train rather than by road motor.

Local Advisory Committees.

Railway Advisory Committees, which continued to function on all class I railways (except the Jodhpur Railway) and on the Barsi Light Railway, afford railway administrations a valuable means of contact with their clientele. During the year under review these Committees held 105 meetings at which a variety of subjects were discussed. Among the more important were increase in accommodation for long-distance third-class passengers, improvements in third-class carriages, the present system of catering at stations and on trains, improvement of booking facilities, elimination of one of the existing four classes of accommodation and special arrangements for festivals. Pamphlets summarising the decisions taken on the points discussed by the Committees are published quarterly by the Railway Board.

Railway Rates Advisory Committee.

The Railway Rates Advisory Committee again worked with Sir Zahid Suhrawardy as President. Two fresh cases were referred to them during the year under review. One was a complaint from the Engineering and Building Products Company, Lahore, regarding the classification of "Upson Board" and "Upson Insulating Board" (*i.e.*, boards of a special composition used for insulating or building purposes in ceilings, walls or floorings), and the other, a complaint from the Bengal Nagpur Cotton Mills Company, Calcutta, against the North-Western, Great Indian Peninsula and Bengal Nagpur Railways regarding the rates charged for cotton from certain stations in the Punjab to Rajnandgaon. The first case was still under enquiry at the close of the year; but in the second, the Committee were of opinion that the rates were not unreasonable. Of the seven cases pending at the beginning of the year, the Committee reported on five. The Government of India accepted their view in two of these; in a third the complaint was withdrawn on the railway administration concerned agreeing to cancel

the rate complained of; and in the remaining two the Committee decided against the complainants. One of the other two cases under investigation at the beginning of the year remained undisposed of at its close, while the other was withdrawn by the applicant, as a compromise was reached with the railway administration. Six further representations for reference to the Committee were received, but were not acceded to because in three instances no *prima facie* case for reference had been made out, one was a matter for reference to the railway administration direct, another was not referable to the Committee under the terms constituting it and the last case was withdrawn after the matter had been settled by the administration concerned.

Publicity.

The Central Publicity Bureau at Delhi and its branches in London and New York continued their work for the development of tourist traffic. The Central Publicity Bureau also co-operates in the publicity work of individual railways and a brief account of what was done by the latter may be of interest. Taken as a whole, the main publicity activities of the railways were focussed on *melas* and fairs of all-India importance and, to a less extent, on excursions, pilgrim trips and the like. The Bombay, Baroda and Central India Railway continued its experiment of catering for small parties of pilgrims and tourists at reduced rates. The Eastern Bengal Railway, in order to encourage local traffic connected with Calcutta, began a "Live in the suburbs" campaign. To combat road-motor competition, the East Indian Railway took special measures such as the introduction of short-period daily return tickets at reduced rates and additional train services. Important train connections, *etc.*, were widely advertised in areas where motor omnibus competition was felt, through the media of coloured composite hand-bills, folders and posters in the vernacular. It also took advantage of the Magh *mela* at Allahabad to advertise other places of historical and religious interest served by it. The Madras and Southern Mahratta Railway adopted an original publicity device. A taxi was plastered with posters and run over a distance of 180 miles in the interior. The North-Western Railway re-introduced its cinema car for purposes of propaganda.

Accidents.

Ten serious accidents occurred in 1934-35, or 2 less than in 1933-34, and 2 of them were due to deliberate mischief. In these accidents, 18 persons were killed and 62 injured. Among the

graver of the accidents mention may be made of the following. On the 15th June 1934 a light train proceeding from Hatta Road to Balaghat on the Bengal Nagpur Railway capsized, with the exception of the engine, during a violent storm. Fourteen passengers were injured slightly and the Permanent Way Inspector, Balaghat, was injured seriously. On the 20th September 1934 thirteen persons were killed as a result of a passenger train being derailed between Kesinga and Rupra Road stations on the Raipur-Vizianagram section of the Bengal Nagpur Railway. The accident was due to the bank having been washed away by flood, leaving the rails and sleepers unsupported. On the 15th December 1934 a mail train was derailed at a bridge between Penwegon and Tawgywe-In on the Rangoon-Mandalay main line of the Burma Railways, owing to some unknown persons having removed both pairs of fishplates from the joints immediately preceding the bridge. A female third-class passenger died of injuries, the driver and both firemen were seriously injured and 12 other passengers received injuries. The damage to engine and rolling stock amounted to approximately Rs. 36,800.

Road-Motor Competition.

Later in this chapter we shall allude to the formation of the Transport Advisory Council and its objects. One of these is to co-ordinate the development of road and rail transport; but pending the adoption of a uniform and suitable policy in this matter, the railway administrations found it necessary to take steps to meet the growing competition from road motors. Among these were the reduction of fares and the introduction of cheap return tickets for third-class passengers, the running of more trains, the institution of local services, the stopping of trains at level-crossings near large villages and also the lowering of rates for such commodities as fresh fruit and vegetables, in regard to which motor competition is most keenly felt. Publicity has already been mentioned. It is satisfactory to note that these measures are having a beneficial effect and attracting more traffic to the railways. But they are palliatives rather than radical cures. The real remedy lies in the proper co-ordination of road and rail transport and more effective control of the former.

Roads.

Previous reports have described the circumstances leading to the institution of the Road Fund in 1929, its object and principles, and its administration during the first five years of its existence. As explained in last year's report, which outlined the salient

features of the revised Resolution adopted by the Indian legislature in April 1934, the Fund has now entered a second or *quasi*-permanent phase, *i.e.*, it is no longer in the experimental stage.

The inauguration of a Transport Advisory Council for the co-ordination of various means of transport, and of the Indian Roads Congress for promoting technical knowledge in road matters, the consideration of proposals for the expenditure of capital by certain local Governments and the examination of a large number of schemes to be assisted by grants from the reserve in the Fund represent the more important activities of the year and are briefly described below. It may be mentioned in addition that some progress was made in initiating large schemes of road development and road reconstruction. The Government of the Central Provinces have begun work on a road improvement and bridging programme estimated to cost Rs. 27 lakhs and in the United Provinces a reconstruction programme amounting to Rs. 80 lakhs was approved at the end of the year. The Governments of Madras and Bengal have appointed special officers to make comprehensive surveys for necessary road development.

Transport Advisory Council.

As a result of one of the recommendations of the Road-Rail Conference of April 1933, a new body called the Transport Advisory Council was created and first met in January 1935. It is, as its name implies, an advisory body consisting of the Member or Members of the Governor-General's Executive Council concerned with communications, sitting with provincial Ministers or Members in charge of communications to evolve a common policy regarding the use and development of road, rail and other forms of transport. It will meet annually. At its first meeting, the Council framed a concise statement of policy under three heads, namely (*a*) the construction of roads and railways, (*b*) the control of traffic and (*c*) administrative machinery. The statement was forwarded to local Governments for ratification and adoption, and has already been accepted to a large extent.

Technical Research and Experiments.

From the reserve in the Road Fund are financed *inter alia* research and experiments and the distribution of technical information on roads. Grants to the extent of Rs. 3½ lakhs have so far been made for experiments. Further, the results of experiments and

other technical information collected in India and elsewhere are distributed through the magazine " Indian Roads ".

Indian Road Congress.

The need for engineers concerned with roads to meet more frequently to discuss technical questions and to pool experience and knowledge has been felt for some time. With this object in view, the Government of India arranged for a preliminary meeting of a body called the Indian Roads Congress at Delhi in December 1934. About 80 engineers from provinces, local bodies, Military Engineering Services, Indian States and business interests attended. This meeting appointed committees to prepare a scheme for the creation of a permanent body and for certain technical matters; and the Government of India have decided to continue financial support for a further period of two years to enable the body to establish itself and prove its value.

The Road Fund.

Including that obtained during 1934-35, the total revenue credited to the Road Fund up to the end of that year amounted to Rs. 6,41 lakhs. Of this sum, Rs. 78 lakhs were taken into the reserve at the disposal of the Government of India, leaving Rs. 5,63 lakhs available for distribution to provinces, minor administrations and Indian States. The actual distribution made was Rs. 4,23 lakhs to provinces and Rs. 75 lakhs to minor administrations and Indian States and the balance of Rs. 65 lakhs at the end of 1934-35 was carried forward for distribution in the following year. The aggregate expenditure of provinces up to the end of 1934-35 was about Rs. 2,44 lakhs. In addition, the Governments of Bombay, the Punjab and Burma were permitted temporarily to divert a total sum of about Rs. 52 lakhs to the ordinary maintenance of roads. The cash balance with local Governments at the end of 1934-35 amounted to about Rs. 1,27 lakhs. During the year under report, the Government of the Central Provinces restored a loan of Rs. 2.5 lakhs, which they had taken from their share in the Account in 1932 for the completion of certain road projects previously started from provincial revenues. A similar loan of Rs. 4.53 lakhs to Assam was treated as expenditure and written off.

Of the total revenue of Rs. 78 lakhs taken into the reserve up to the end of 1934-35, about Rs. 60 lakhs had been credited by the end of 1933-34. Out of this latter sum, grants to the extent of Rs. 53 lakhs had been ear-marked for specific schemes and Rs. 3.5

lakhs had been allotted to experiments. The balance represents the cost of administration and a small saving of Rs. 1 lakh, which was carried forward to 1934-35. The revenue of Rs. 18 lakhs credited to the reserve during the year 1934-35 together with the balance of Rs. 1 lakh just mentioned was therefore available for appropriation against the second instalment of schemes debitable to the reserve. With the future of the Fund more definitely assured and the increase in the proportion to be credited to the reserve, as explained in last year's report, it was possible to issue invitations for the submission of demands for grants against the estimated revenue in the reserve for the next three years. Together with the Rs. 19 lakhs brought forward from 1934-35, the funds to be available during the next three years are estimated at Rs. 85 lakhs, to which has been added the special appropriation of Rs. 40 lakhs in the general budget for 1935-36, making a total of Rs. 1,25 lakhs. After providing for administration and a sum of Rs. 5 lakhs for experiments and research, a sum of Rs. 1,18 lakhs is available for special grants. A large number of demands against this were received and were under examination at the end of the year.

Road Surveys.

A noticeable feature of the use of the reserve is the help which the Government of India have rendered in the matter of special surveys. As stated last year, they met the cost of a special road survey in Sind, particularly in the areas served by the Sukkur Barrage. The report of the special officer was received during the year and was being examined in conjunction with the Government of Bombay when the year closed. The Central Government also took the initiative in the Eastern States and parts of Orissa, which are in need of better communications, and placed a member of the Indian Service of Engineers on special duty to make a general reconnaissance to be followed by detailed surveys and estimates. This survey was in progress at the end of the year.

Posts and Telegraphs.

Our last report showed that there had been a steady decline in postal traffic and income during the financial years 1929-34 except in the number of money orders and in gross earnings, which rose slightly in 1933-34. It is therefore satisfactory to note that the year under review saw an increase in both traffic and receipts. The indications are that the tide has now definitely turned and that if the general improvement in economic conditions continues,

the Department may look forward to balancing its budget in the near future.

Facilities for the conveyance of mails by air were further developed during the year. The weekly Croydon-Calcutta service was converted into a bi-weekly one and extended to Australia. An inland air-mail service was introduced between Karachi and Lahore and both the Karachi-Lahore and Karachi-Madras services were made bi-weekly. In addition a heavy overseas parcel service was introduced with Hongkong, Palestine, Roumania and Spain and an air-mail money order service was established with Kenya, Uganda and Tanganyika territory. The year saw the introduction of revised and generally reduced scales of charges for the services rendered by the Department in the postal, telegraph and telephone branches. The postage on letters, which used to be 1¼ annas for the first 2½ tolas, was fixed at 1 anna for a weight not exceeding ½ tola and 1¼ annas for a weight exceeding ½ but not exceeding 2½ tolas; while a small increase was made in the rate for book, pattern and sample packets. The minimum charge for ordinary inland telegrams was reduced from 12 annas for the first 12 words or less with a 1 anna surcharge *per* telegram to 9 annas for the first 8 words or less without any surcharge. Corresponding changes were made in the rates for express telegrams. Extensive alterations were effected in the subscription rates for telephones, the main features being the introduction of monthly rates with a 10 *per cent* discount for prompt payment and a greatly reduced annual rate. In the case of air-mail surcharges too, revised and generally reduced rates were introduced in the hope of attracting more traffic. This hope was to a great extent realised.

Telegraph and Telephone Services.

During the year under review telegraph and telephone traffic increased, the number of telephone subscribers rising from 22,804 to 24,328. In addition, Licensed Telephone Companies had 40,120 subscribers in the 25 exchanges owned by them. The main telephone trunk system was extended into southern India and connected to several outlying stations with which trunk communication had not hitherto existed. The Calcutta-Bombay direct trunk circuit *via* Nagpur, on which carrier equipment had been installed to provide additional channels, continued to work satisfactorily; but owing to the number of calls having exceeded the capacity of this circuit, three more telephone carrier channels were added to it. The

efficiency of long-distance trunk lines was greatly enhanced by the installation of additional telephone repeaters at intermediate stations. The overseas radio-telephone service between India and Great Britain is now open to all exchanges in India connected with the general trunk system and is attracting traffic. Telephone communication between India and Ceylon has also been established by means of a submarine cable.

Wireless Telegraphy.

Wireless stations continued to function satisfactorily. The increase in the trans-Indian air services had a considerable effect on the amount of work of the stations on the route. Owing to Allahabad having been selected as one of the compulsory halts in the Melbourne centenary air race from England to Australia, special arrangements had to be made for the wireless station there to communicate with all competitors who carried wireless equipment. During the year a scheme was approved for a wireless telephone service between Madras and Rangoon and considerable progress was made with it; and a new station for aeronautical purposes was under construction at Tavoy.

Financial Position of the Department.

Partly as a result of reduction in rates but mainly as a result of recovery in trade, traffic increased and the gross receipts of the Department rose to Rs. 11.20 crores, exceeding the receipts of the previous year by Rs. 47 lakhs. Working expenses totalled Rs. 9.98 crores, as against Rs. 10.40 crores in the previous year. This decrease does not, however, represent an actual saving because the normal annual contribution of Rs. 36 lakhs to the depreciation fund was, as a special case, reduced to Rs. 9 lakhs. Apart from this, retrenchment was continued during the year and contributed towards the decrease in expenditure. After paying interest on capital outlay, the year's working showed a profit of Rs. 38 lakhs, as against a loss of Rs. 52 lakhs in 1933-34. But this was not a real profit, since during the year the salaries of the staff were subject to the emergency deduction of 5 *per cent* and, as already stated, the full contribution to the depreciation fund was not made. If there had been no emergency deduction from pay and the full contribution to the depreciation fund had been paid, the year's working would have shown a loss of Rs. 19 lakhs.

Broadcasting.

Regular broadcasting was first undertaken in this country by the Indian Broadcasting Company, which began operations in

Bombay and Calcutta in 1927. Its income, derived from a levy on wireless apparatus imported into India and a share of the licence fees, proved inadequate to maintain the service and the Company went into voluntary liquidation in February 1930. In view of the public demand for the service and of the potential value of broadcasting, the Government of India decided in March 1930 to take over the organisation and the Indian State Broadcasting Service was formed for the purpose on a temporary basis. It was anticipated that there would be a loss on the running of the service for the first two or three years; and during the financial stringency which supervened, it was feared that it would be necessary to abandon it. Public feeling in favour of its retention, however, continued. Expenditure was therefore further curtailed and the customs duty on imported wireless apparatus was increased with a view to securing that the total revenue derived from broadcasting would cover the expenditure. In addition, increased powers were taken by legislation in 1933 to prevent the evasion of licence fees. As a result, the *pro forma* accounts showed a small profit in 1932-33 and a substantial excess of revenue over expenditure in the two succeeding years. In view of this, the Government of India felt justified in developing the service. Arrangements were accordingly made to create a separate Department of Broadcasting under a Controller and to select a specially qualified officer for the post in England. Subsequently, the approval of the Legislative Assembly was obtained to a special grant of Rs. 20 lakhs for the development of broadcasting and with the help of this grant, arrangements were made to establish, by the autumn of 1935, a 20 kilowatt station at Delhi, to be followed by similar stations at other places. The programmes transmitted by the stations of the Indian State Broadcasting Service are designed to provide entertainment of a general nature, though a certain amount of matter of educative value is included. Considerable attention was given during the year to the problem of using broadcasting for rural uplift in India and an interesting experimental station has been started at Peshawar by the Government of the North-West Frontier Province with a small modern transmitter.

Civil Aviation.

The year under review saw still further developments in civil aviation, not only in the trans-Indian services but also in internal services.

Regular Air Services.

The Croydon-Karachi portion of the England-Australia service was speeded up by a day each way and, partly at least as a result of this, there was a marked increase in the quantity of mails carried by air to and from India. The former rose from 24.6 tons in 1933 to 29.4 tons in 1934 and the latter, from 24.2 tons to 29.8 tons. These figures do not include mails carried through India to or from other eastern countries. In consequence of growing traffic, it was necessary, as already indicated earlier in this chapter, to duplicate the Croydon-Karachi service with effect from the 1st January 1935, and in turn to run the Karachi-Calcutta service twice weekly also. On the Karachi-Singapore section too there was a rise in the quantity of mail carried both eastward and westward. As further evidence of expansion, it may be mentioned that the number of aircraft arrivals from abroad increased from 316 to 364 and the number of departures for other countries, from 302 to 365. In all 398 passengers were carried to India (including Burma) in 1934, as against 383 in 1933, and 479 from India (including Burma), as against 355. Passengers whose journeys did not end or begin in India are included in both cases. The most striking figures, however, relate to freight (including bullion). In 1934, 24,489 lbs. were carried to India and 17,190 lbs. from India, as against 13,555 lbs. and 5,443 lbs. respectively in 1933. But the value of merchandise imported by air fell from Rs. 50.6 lakhs to Rs. 44.14 lakhs, though that of merchandise so exported rose from Rs. 44,206 to Rs. 63,621.

Of considerable importance to the future development of aviation in India was the announcement made in Parliament in December 1934 foreshadowing expansions of a far-reaching character in Empire air services. These, when effected, will give India 4 or 5 services a week, two terminating at Calcutta and the others proceeding to Singapore or Australia; will reduce the time for the Croydon-Karachi journey to a little over 2 days and will carry all first-class Empire mail, namely letters and post-cards.

Prominent among the events relating to services confined to India was the formation of two new companies, the Himalaya Air Transport and Survey Limited and the Irrawaddy Flotilla and Airways Limited. The former is intended primarily to provide an air service between Hardwar and Gauchar (a place situated 3,000 feet up in the Ganges valley in the Himalayas) for the pilgrim traffic to Badrinath. An Airspeed Ferry eight-seater was employed for

experimental flights over the distance of 70 miles. Thirteen return flights were made and proved successful, the time occupied on the journey being reduced to one hour by air as compared with 10 days by road. The service was formally established in April 1935. The other new concern operates the first wholly internal service in Burma. Among its objects is to develop the use of seaplanes on the province's rivers and harbours. With a D. H. Fox Moth seaplane an experimental weekly service was started between Rangoon and Moulmein and later extended to Tavoy, 267 miles from Rangoon. A weekly service from Rangoon to Mandalay (406 miles) was also inaugurated.

The Karachi-Bombay-Madras and the Calcutta-Dacca services continued to function throughout the year. Since the former was unable to cope with the increasing demand for passenger accommodation between Bombay and Karachi, the purchase of bigger machines is contemplated. In November 1934, the Calcutta-Rangoon service, which had been operated as a weekly service, was duplicated, one of the services connecting with the Empire service terminating at Calcutta. In December 1934 a service between Karachi and Lahore was started to effect connection with the main service. Indian Air Survey and Transport Limited had a busy year and did a lot of useful surveying, chiefly in Bengal and Bihar.

Private Flying.

Private flying too made headway in 1934, though the Kathiawar Flying Club ceased operation, leaving only 8 clubs at the end of the year. Membership of these rose from 1,750 to 1,762; the number of machines owned, from 29 to 31 (in addition 42 machines were owned privately); and the number of hours flown, from 10,995 to 11,780. Seventy-five pilots were trained during the year, as against 68 in 1933. The Government grant for subsidy to the 7 clubs in British India and the Aero Club of India and Burma again amounted to Rs. 1.3 lakhs. Indian National Airways Limited opened a flying school in Rangoon in April 1934 and by June had 22 pupils, 18 of whom qualified or re-qualified for 'A' licences. In all 100 private pilots' licences and 32 Ground Engineers' licences were issued during the year, as against 96 and 6 respectively in 1933. It is interesting to note that in addition to the scholarships and other financial aid given by the Government of India for the training of Indians in aviation, private bodies are also rendering similar assistance. This affords evidence of India's growing air-mindedness.

An event of interest was a flight to England and back by members of the Bombay Flying Club. An event of international importance was the air race from England to Australia, referred to earlier in this chapter, part of the course of which lay across India. The Aero Club of India and Burma undertook the arrangements for the local section of the route on behalf of the Royal Aero Club; and as Allahabad was the control point for the country, all competitors had to land there.

Viceroy's Tours.

In his Avro X, His Excellency the Viceroy flew 1,518 miles during the year and also made an air tour from Delhi to Patna and back in another machine. Owing to the inadequate performance and load-carrying capacity of the old Avro aeroplane, a new one, an Avro 642, was purchased and arrived in India in December 1934.

Accidents.

Twenty-six accidents occurred in 1934, as against 29 in 1933; but unfortunately the consequences of the former were graver, since 4 persons were killed and 4 seriously injured in them, compared with none and 3 respectively in the previous year. Of the 26 accidents in 1934, 9 were major ones (*i.e.*, resulted in death or serious injury to personnel), six being fatal. Indian aircraft were involved in four of the latter. Foreign aircraft were concerned in 6 accidents, of which 2 were ground accidents. As Indian aircraft accomplished 18,413 hours of flying in 1934, compared with 15,240 hours in 1933, the number of accidents to such aircraft (20) was both absolutely and relatively lower than in the latter year (22).

Administration and Finances.

In consequence of the expansions, both actual and prospective, mentioned above, it became necessary to strengthen the superior technical staff of the Civil Aviation Directorate during the year under review. This staff now consists of the Director of Civil Aviation, the Deputy Director of Civil Aviation, a Chief Inspector of Aircraft, two Engineer Officers and a Technical Officer at headquarters; a Chief Aerodrome Officer and an Aircraft Inspector at Karachi; and an Aircraft Inspector at Calcutta. In addition, 6 Aerodrome Officers and 2 Assistant Aircraft Inspectors are employed. During their autumn session, the Legislative Assembly passed the Indian Aircraft Act and the Indian Carriage by Air Act, which bring the law on the subject up to date. The framing of new rules under the former Act was taken in hand. It may be

added that India was represented at the 22nd session of the International Commission for Air Navigation held in Lisbon in May 1934.

As stated in last year's report, the provision for civil aviation in the budget for 1934-35 was Rs. 14.24 lakhs. In the budget for 1935-36, however, it has been raised to Rs. 16.19 lakhs, the increase being intended mainly to cover subsidy, in the shape of customs and ground-organisation concessions, to Imperial Airways and Indian Trans-Continental Airways, on account of the duplication of the service between Karachi and Calcutta. It is to be noted, however, that as a result of the expansion of flying in India, the Petrol Tax Fund has been greatly augmented.

Ground Organisation.

A grant of Rs. 92,57,000 was made for the general development of air routes in India over a series of years.

Meteorology.

Meteorological arrangements on the main trans-India air route had to be reorganised to meet the needs of the greatly increased air traffic, which rendered the old system of supplying weather forecasts to aeroplanes individually, unsuitable. A new system of routine distribution was therefore introduced from the 1st October 1934, under which a forecast for the ensuing 24 hours is issued each evening for each section of the route and distributed by wireless to the aerodromes principally concerned. These forecasts are, if necessary, supplemented or amended at noon next day by brief reports covering the afternoon hours. The diffusion of the latest information about the upper winds was also placed on a routine basis; and in addition pilot-balloon stations now provide another important new item of information, namely data about height of the base of low clouds whenever cloud-base is below a certain height or an aircraft makes a request for such data. Current weather information, *i.e.*, information about clouds, visibility, rain, wind at surface, *etc.*, is similarly exchanged by wireless as a matter of routine twice daily. For the new Karachi-Lahore air service, a pilot-balloon station was opened at Sukkur and an extra balloon flight was introduced at Lahore. Over 5,300 weather reports and forecasts were issued during the year under review, as against a little more than 4,100 during 1933-34. These included warnings of cyclones, storms, depressions, thunder-squalls, heavy rain and spells of cold weather sent out from Poona and Calcutta. The

Department also continued its other normal activities of time-signal work at Calcutta and Bombay, solar observations at Kodaikanal, seismological and magnetic observations at Bombay, compilation and tabulation of climatological data, exploration of the upper air by pilot-balloons and periodical soundings with self-recording meteorographs. Further, as in other years, it instructed and examined in meteorology candidates for air pilots' B licences. An innovation was the exchange of meteorological data between India and Siam on a small scale as an experimental measure.

On the scientific side, further work was done in developing the technique of pilot-balloon ascents at night and a special study of the seismograms of the Bihar earthquake was undertaken at Bombay. The Meteorological Officer at Peshawar continued to co-operate with the local medical authorities in investigations into the relation between weather and the incidence of disease in the North-West Frontier Province. Among other scientific activities were investigations on the thermal structure of cumulus clouds; study of the physical structure of the atmosphere in the field of a tropical storm as revealed by data obtained from self-recording meteorographs attached to balloons; the recording, by means of an apparatus modelled on the one used in the Kew Observatory, of the earth-air electric current; the preparation of another apparatus for the same purpose involving the use of thermionic valves; and a series of experiments to discover the process by which electric charges are generated on drops of different liquids broken by various mechanical methods. The Agricultural Meteorology branch was engaged in studying the microclimates of different crops at Poona, besides other experimental work such as the measurement of evaporation, effect of cover on soil temperatures, exchange of moisture between air and soils and the measurement of percolation and solar, terrestrial and nocturnal radiation. The study of meteorological factors during frosty nights and the methods of preventing damage to crops also received attention.

CHAPTER V.

Defence and Emigration.

Scope of Chapter.

In this chapter we shall describe the more important events connected with India's defence and internal security, the administration of the defence services and the position of Indians in the Dominions and Colonies.

Operations on the North-West Frontier. Waziristan.

On the 29th May 1934 a large party of Zilli Khel Wazirs attacked a body of South Waziristan Scouts near Boza, 15 miles north-west of Wana. One British officer and 4 men were wounded. The Scouts, however, inflicted losses on their assailants and withdrew to Patnai Warsak. With aircraft co-operating, the Wana column moved out to Boza next day and after reconnoitring the area, returned to Wana without incident. On the 2nd June the Resident in Waziristan met a *jirga* of the Zilli Khel and, as punishment for the attack, imposed a fine of rifles. He also levied a deposit of additional rifles as security for future good behaviour.

Tirah.

During a routine reconnaissance of Tirah and Waziristan on the 9th August, a flight of the Royal Air Force was heavily fired on near Bagh in the Tirah. One aeroplane failed to clear a hill and crashed. The pilot sustained a fractured leg and arm, but the air gunner escaped with minor injuries. Medical assistance arrived from Parachinar the following day and the injured men were carried by Afridis to Peshawar.

Malakand.

In the course of one of his *Amr-i-Maruf* tours, the Faqir of Alingar with a party of 200 tribesmen crossed the Swat river into the protected Malakand area on the 31st July. A contingent of Swat Levies sent to prevent the intrusion was attacked and withdrew after losing 1 killed and 8 wounded. A company and a machine-gun platoon of the 2|2nd Gurkha Rifles were despatched to support the Levies and the Royal Air Force reconnoitred the region. One of the aeroplanes was fired on in the Loe Agra area and retaliated. This alarmed the Faqir, who, with his party, recrossed the river to continue his tour in Bajaur.

To prevent such incursions in the future, the Government of India decided to re-absorb the Agra area into the Malakand protected tract in accordance with an agreement of 1906 which had never been enforced. The infliction of fines on the Khanori and Bara Totai *jirgas* for their connivance in the Faqir's visit, the construction of a road from Kot to Agra and the establishment of a levy post at the latter place were also decided upon; and a column of troops was ordered to concentrate at Kalangai, to the north of the Agra area, to enforce these terms if necessary. With the object of preventing the terms being given effect to, the Faqir of Alingar raised a *lashkar* with which he again crossed the Swat river into the Loe Agra area. An air demonstration was carried out on the 21st February by 5 squadrons of the Royal Air Force and on the 23rd, the Nowshera Brigade and attached troops concentrated at Kalangai. While a piquet was entering into occupation of a camp there with the aid of aircraft, it encountered some opposition from the *lashkar* and suffered 3 casualties. Three of the enemy were reported to have been killed and 17 wounded. The column reached Loe Agra on the 25th February, the *lashkar* retired across the river and the troops then withdrew to their peace stations.

Soon after, however, the Faqir succeeded in raising another *lashkar* some 700 strong and on the 5th March re-entered the Loe Agra area. The Nowshera column was moved up to the Malakand once more and its arrival at Agra led to the *lashkar's* withdrawal. Thereafter the column returned to its peace station leaving a battalion in the neighbourhood of Bargholai, some 5 miles south of Loe Agra, and another at Kot.

A reference to the subsequent activities of the Faqir is contained in the next chapter.

Chitral.

The biennial relief of the Chitral garrison took place in September and October 1934. The relieving battalion moved up in September without incident. The Faqir of Alingar, however, raised a *lashkar* of about 800 tribesmen, chiefly Shamozai, to oppose the return of the relieved column. On the 9th October a small party of this *lashkar* crossed the Panjkora river from Bajaur, but were driven back by the Nawab of Dir's levies supported by the Royal Air Force. On the 12th, the Chitral column was sniped at from

long range from across the Panjkora river, but retaliatory action by the artillery with the column and the Royal Air Force caused the tribesmen to disperse. It was reported that the *lashkar* suffered some 40 casualties in the action.

Operations in the Wa States.

Reference was made in Chapter I of last year's report to certain incidents on the Sino-Burmese frontier. More serious clashes occurred during the year under review. Early in the latter, Chinese raiders crossed the Liuchen Line and on the 30th May a collision took place between them and a column of the Burma Military Police. The Chinese lost 32 killed and many wounded, while the Military Police had no casualties. On the 18th June several hundred Chinese attacked a friendly village on the Burma side of the Liuchen Line. They were promptly engaged by a column of Military Police and repulsed with heavy losses. The Police had only one man wounded. A few other raids, mainly the work of Chinese bandits, took place during the summer. Finding it impossible to maintain themselves in the forward areas during the rainy season, the Chinese withdrew and have not since re-appeared. On the first indication of trouble, the British forces in the area were increased to about 900 Burma Military Police. The only regular troops employed were a section of the 10th Mountain Battery, Royal Artillery. In addition, 2 companies of the 1|20th Burma Rifles were moved from Maymyo to Lashio to release the Military Police there for employment in the forward areas and No. 10 Field Company, Q. V. O. Sappers and Miners, were sent to Lashio to assist in maintaining the line of communication to the forward area, which is difficult to keep open during the rains.

The Defence Services.

The year under review witnessed several important events connected with the organisation and administration of the Defence Services.

Royal Indian Navy.

The Indian Navy (Discipline) Act, 1934, which provides for the application of the British Naval Discipline Act, with certain modifications, to the Indian naval forces, was passed by the Indian legislature and came into force on the 2nd October 1934. His Majesty the King Emperor was pleased to approve of the Royal Indian Marine Service being designated the "Royal Indian Navy" from the same date.

Three candidates were selected for appointment to the Royal Indian Navy by means of an open competitive examination and one by means of a special examination for cadets of the Indian Mercantile Marine Training Ship " Dufferin ". Two of the successful cadets are for the executive and two for the engineer branch. Five Indian officers (3 of the executive and 2 of the engineer branch) were actually serving in the Royal Indian Navy, while 13 officers-designate were under training in the United Kingdom, 4 for the executive and 9 for the engineer branch.

A new sloop, H. M. I. S. " Indus ", was taken over from the builders, but remained in English waters to participate in the Silver Jubilee celebrations of His late Majesty King George V. H. M. I. S. " Hindustan " visited Australia in response to an invitation from His Majesty's Government in the Commonwealth of Australia for India to be represented by one of her ships at the centenary celebrations at Melbourne.

Indian Army—Organisation and Mechanisation.

The 2 Indian Divisional Ammunition Columns and the Field Ammunition Column ceased to exist and arrangements were made for the supply of ammunition to all the units of a Division by a Divisional Ammunition Unit. The headquarters and communication personnel of this unit will belong to the Royal Artillery, while the transport will consist of ordinary sections of Royal Indian Army Service Corps mechanical transport ear-marked for such duties.

The Royal Artillery field brigade located at Nowshera was converted from a horsed into a mechanised unit, traction being provided by 30-cwt. vehicles.

Re-organisation of Mechanical Transport.

The re-organisation and re-distribution of Army motor transport in India was continued, the chief measures of the year being the disbandment of certain units which were not considered essential and the re-organisation of heavy repair establishments. Plans were also prepared for the substitution, as a provision for war, of subsidised mechanically propelled vehicles for vehicles maintained by the Army, but they did not become effective during the year.

Equipment.

By the end of the period under review all cavalry units had received their quota of the new Vickers-Berthier gun, to which reference was made in last year's report, and considerable progress had been made with its supply to the infantry. Three armoured-car

companies were re-equipped with light tanks and the provision of oil-cooking equipment was proceeding. Trials and experiments with various types of smoke-producing weapons, wireless apparatus, artillery tractors, trailers and light cars continued throughout the year.

Indianisation. Indian Military Academy.

Seventy-two cadets (34 through the competitive examination and 38 from the ranks of the Indian Army, including the Auxiliary Force, India, and the Indian Territorial Force) were admitted into the Indian Military Academy, Dehra Dun, during 1934-35, to be trained for commissions in the Indian Land Forces. The excess of 12 over the normal intake of 60 cadets was due to the replacement of those withdrawn or removed from the Academy during the year. Four candidates from the Indian States Forces were also admitted. Dearth of fully qualified candidates was again responsible for the deficiency in the normal intake of 20 cadets of the latter category.

During the period under review the first batch of cadets to pass out of the Indian Military Academy received commissions in His Majesty's Indian Land Forces. Twenty-two were examined and all passed, 19 being posted to cavalry and infantry units, 2 to the Engineers and 1 to the Artillery. Seven Indian States Forces cadets also qualified at this examination.

The passing of the Indian Army (Amendment) Act by the central legislature during its autumn session of 1934 marked a definite and important stage in the Indianisation of the Indian Army. This measure provides for the legal status of officers commissioned from the Indian Military Academy and also rules that they shall be designated " Indian commissioned officers ". During the discussions on it, an amendment was moved with the object of bestowing on these officers exactly the same status and powers of command in the Indian Army as are possessed by British officers of that Army. The official spokesman explained, however, that neither the British nor the Indian Army Act had anything to do with powers of command, which are governed by King's Regulations, and that the amendment trespassed on His Majesty's prerogative. He also promised that when the measure became law, amendments would be made in King's Regulations to provide for complete equality within the Indian Army as between the British officer and the Indian commissioned officer and

to delegate power to the Commander-in-Chief and subordinate commanders in India to authorise Indian officers to exercise powers of command over British personnel of the British Army in India wherever necessary. The promised amendments to King's Regulations have since been issued.

Indian Regiment of Artillery.

"A" Field Brigade, the first unit of the Indian Regiment of Artillery, was formed at Bangalore on 15th January 1935 and took the place of a Royal Artillery unit which proceeded to the United Kingdom. The warrant officers, non-commissioned officers and a portion of the gunners were selected from volunteers from other arms of the service. The Brigade is now being brought up to its authorised strength by direct enlistments. Three Indian King's commissioned officers are at present serving with it, the remainder of the officer establishment being filled by volunteers from amongst officers of the Royal Artillery seconded for an indefinite period. These seconded officers will be replaced gradually by Indian officers from the Indian Military Academy as they become available.

Medical Services.

A senior member of the Indian Civil Service was placed on special duty to examine and report on the whole question of the future of the military medical services in India. He was required to consider the matter in the light, not only of the impending constitutional changes, but also of the recommendations of the committee which sat in 1933 to consider the military medical organisation in India and of the Warren Fisher Committee which enquired, in the same year, into the difficulties experienced in keeping the medical services of the fighting forces in the United Kingdom up to strength. The report was still under consideration at the close of the year under review.

On the passing of the Indian Medical Council Act by the Indian legislature, it was decided that any person possessing an Indian medical qualification recognised under section 11 (1) of the Indian Medical Council Act, 1933, and registered in British India under one of the provincial Medical Acts, should be eligible for appointment to the Indian Medical Service.

The Defence Services Budget.

The budget for 1934-35 was fixed at Rs. 44.30 crores (exclusive of Rs. 8 lakhs for the expansion of the Territorial Force) as compared with the revised estimate of Rs. 44.34 crores for 1933-34. The budget estimate for 1934-35 was reduced to Rs. 44.26 crores in the

course of the year on account of a reduction in payment to the War Office for British troops serving in India.

Air Force.

The establishment of the Air Forces in India remained at a strength of 8 Squadrons and 1 Bomber Transport Flight of the Royal Air Force and 1 Flight of the Indian Air Force. The Air Force budget estimate for 1934-35 was Rs. 1,79,69,000.

Royal Air Force Activities.

During the period under review, aircraft of the Royal Air Force in India flew 444 hours on operations. Details of these operations are given at the beginning of this chapter. In addition to normal training occupations, the Royal Air Force undertook, as in previous years, a number of long-distance exercise and special flights. In May, 2 aircraft of No. 28 (Army Co-operation) Squadron were engaged on a reconnaissance of a proposed trans-India seaplane route. In November, 5 Hart aircraft visited Gilgit and 1 flight of 4 Wapiti aircraft of No. 60 (Bomber) Squadron from Kohat carried out an exercise flight to Singapore. One of the latter was destroyed as a result of a forced landing near Alor Star, but the remaining 3 returned safely to Kohat on the 21st December. In January, 12 Hart aircraft of No. 11 (Bomber) Squadron accomplished a successful exercise flight from Risalpur to Singapore and back. The Royal Air Force also co-operated with the Survey of India and photographed several areas on the North-West Frontier.

Indian Air Force.

The Indian Air Force continued its training with the first complete flight and a nucleus of Squadron Headquarters. As in the preceding year, the unit took part in the Sind (Independent) Brigade Area exercises and also carried out photographic work for the Staff College, Quetta. Apprentices for the second flight commenced their training in February 1934 and were expected to complete it in February 1936. Apprentices for the third flight were placed under two years' training in April 1935. Six officers of the General Duties Branch are now serving with the unit in India; 2 others have passed out of the Royal Air Force College, Cranwell, and are attached to Royal Air Force units in England and 1 cadet is still at the Royal Air Force College.

Indians Abroad. South Africa.

Turning now to the position of Indians abroad, as the Transvaal Asiatic Land Tenure Act Commission, mentioned in our last three reports, was unable to finish its work before the 30th April 1935,

as had been hoped, the Union Government took steps early in the year to amend the Transvaal Asiatic Land Tenure Act of 1932, so as to extend the protection provided by it to the 30th April 1937.

Land Tenure in the Transvaal.

An important concession was secured for the Indian community in respect of the Liquor Law of 1928. This prohibited Indians from handling liquor and from working in an establishment where liquor is handled and thus debarred them from employment as wine stewards and also lessened their chances of employment as waiters, though up to the passing of the Act they had served in these capacities in considerable numbers to the satisfaction of both their employers and the public. As a result of representations made by the Agent General for India in South Africa when the Act was passed, the Union Government had agreed that letters of exemption under the Act might be issued to Indians who were employed in handling liquor at that time. In April 1934, however, a Transvaal magistrate refused to exempt non-Europeans from their disability to serve as wine waiters and stewards, holding that he had power to grant exemptions to 'prohibited persons', *i.e.*, non-Europeans, so as to permit them to obtain moderate quantities of liquor at stated intervals, but no power to grant exemptions enabling them to serve liquor. As it was found on examination that the view taken by the magistrate was correct, the Agent General made representations to the Union Government, in consequence of which fresh regulations were issued in August 1934 permitting the exemption not only of non-Europeans employed in serving liquor when the Act came into force but also of those taken into employment after that date. This meant an important concession, but was limited by the fact that, to qualify for exemption, employment since the Act had to be on premises in which non-Europeans were employed before the Act. Further representations to the Union Government resulted in the withdrawal of this limitation; but the position still remained unsatisfactory from the Indian point of view in that there was no hope of fresh employment for Indians. Representations were again made to the Union Government, who decided that the number of exemptions in existence at the time of the announcement of the concession should be maintained irrespective of employment before or after the regulations of August 1934. Hence, instead of this avenue of employment being closed entirely to fresh

Liquor Law.

Indian recruits, Indians may be engaged to make up for the wastage among those at present in employment. This represents a considerable advance on the old position.

Other Dominions. While in most other Dominions the position of Indians showed no material change, it is satisfactory to record that the State of Western Australia amended its electoral law so as to provide for the enfranchisement of British Indians resident there. This action, which is much appreciated, removed the only political disability to which Indians resident in any part of the Commonwealth were subject.

East Africa. There were two matters which caused the Indian community in Kenya much disquiet. One was the recommendation of the Kenya Land Commission, whose report was published in 1934, that the boundaries of the European Highlands should be safeguarded by Order-in-Council, giving the European community the same measure of security in this respect as the Commission had recommended for the natives. The other was the legislation introduced in 1934 to control the marketing of native produce, on the lines of similar legislation in Tanganyika and Uganda.

The Indian community have all along protested against the policy of reserving the highlands for Europeans. The matter was last reviewed in 1923, when His Majesty's Government reaffirmed their decision to maintain the existing practice in regard to initial grants of Government land in the highlands and transfers between persons of different races. In accepting this decision under protest, the Government of India reserved to themselves the liberty to make "such representations as may be necessary whenever in future a legitimate opportunity should present itself". No such opportunity occurred until the announcement in 1934 that His Majesty's Government had accepted the recommendation mentioned in the preceding paragraph. As the proposed Order-in-Council would give statutory effect to restrictions which were originally considered necessary on grounds of administrative convenience, suitable representations were made to His Majesty's Government.

The marketing legislation contemplated in Kenya and its effects on the Indian community there were described in last year's report, which also mentioned the deputation of Mr. K. P. S. Menon, I.C.S., to enquire into the probable effect of such legislation in Tanganyika,

Uganda and Kenya on Indian interests. His report had not been published before the close of the period under review; but pending its consideration, the Government of Kenya, in deference to the wishes of the Government of India, agreed to defer progress with the Bill in question.

Zanzibar.

Reference was made in last year's report to certain Decrees passed by the Government of Zanzibar which had aroused apprehensions in the minds of Indian residents there, and to the deputation of Mr. K. P. S. Menon, I.C.S., to the Protectorate to enquire into the matter. In his report, published in January 1935, Mr. Menon expressed the view that the Decrees likely to injure Indian interests were the Clove Growers' Association Decree, the Clove Exporters' Decree and the Alienation of Land (Restriction and Evidence) Decree. The first of these establishes an Association (to be managed by a Board consisting of not more than seven members and a Secretary-Manager) entitled to deal generally in, and to export, agricultural produce. The operations of the Association are to be financed chiefly by a levy on all cloves exported from the Protectorate and the Association is exempt from all fees leviable under the law. Under the Clove Exporters' Decree, no person may export cloves from the Protectorate unless he has obtained a licence to do so from the Board of Management of the Clove Growers' Association on payment of a fee which may amount to Rs. 5,000 *per annum.* Mr. Menon was of opinion that these two Decrees would seriously handicap Indian exporters and traders. After consulting the Standing Emigration Committee of the Indian legislature, the Government of India made suitable representations to the India Office, but no final decision had been reached at the close of the year under report. Pending a settlement, however, an assurance was given on behalf of the Secretary of State for the Colonies that representations regarding any cases of individual hardship would receive the most careful consideration.

The Land Alienation Decree mentioned above prohibits the alienation of land by an Arab or an African to a person who is not an Arab or an African, except with the consent of the British Resident. It also permits oral evidence to be tendered to prove the real nature of the transaction in cases of "fictitious sales" and provides for a moratorium of one year during which no decree or

order of a Court for the sale of the land of an Arab or an African can be executed. Mr. Menon was of opinion that this Decree was unobjectionable provided the racial distinction it made was replaced by a distinction between agriculturists and non-agriculturists and protection was afforded to rights arising from past transactions. As the Government of Zanzibar proposed to appoint a Commission to go into the whole question of agricultural indebtedness in the Protectorate, he recommended that representations regarding this Decree might be postponed till the Commission's report had been received and considered. This recommendation was accepted by the Government of India, who were awaiting the report in question at the end of the year under review.

Ceylon and Malaya.

The improvement in the rubber industry noticed last year was maintained during the period under review, though some diminution occurred in the demand for labour. This was only natural in view of the rubber restriction scheme, mentioned in an earlier chapter, which was mainly responsible for the revival. In order to avoid overstocking of the labour market and consequent depression of wages, recruitment for estates in Ceylon was severely restricted. In the case of Malaya, assistance to emigrate was limited to labourers necessary to meet the requirements of the rubber and other industries in that country. Assisted emigration, which had been permitted for a year with effect from May 1934, was allowed to continue till the end of January 1936, subject to a further quota.

Another matter which affected Indians in Ceylon was the passing of the Land Development Ordinance, which aims at the systematic development of crown land and provides *inter alia* for preferential grants of such land to middle-class Ceylonese in certain cases. The term " Ceylonese " as defined in the Ordinance was open to objection from the standpoint of the Indian community in the island. The Government of India therefore urged that the definition should include Indians who could not claim a domicile of origin but were permanently settled in Ceylon. Unfortunately this representation proved unsuccessful.

CHAPTER VI.

Politics and Administration.

This chapter is intended to give a brief account of the main political and administrative events during the calendar year 1935.

Introductory.

Public interest during the early months of the year was focussed upon the session of the new Legislative Assembly, which started on the 21st January. The strength of the various parties in the Assembly was as follows: Congress party 44, Congress-Nationalist party 11, Independent party 22 (of whom 18 were Muslims), European group 11, officials 26, nominated non-officials 13. The Government could normally rely on about 50 votes; the Congress party and the Congress-Nationalist party combined, on 55. Thus the results of most divisions depended upon the attitude adopted by the Independent party.

Session of the Central Legislature.

The report of the Joint Parliamentary Committee was debated during three days. Many of the speeches recapitulated in substance the criticisms of the report that had appeared in the nationalist newspapers after its publication during the previous November. On the 4th February, the Leader of the House (Sir Nripendra Nath Sircar) moved "that the report of the Joint Committee on Indian Constitutional Reform be taken into consideration". A large number of amendments to this motion were tabled and the outcome of the debate was somewhat confusing. The first amendment on which a division was taken was that moved on the 7th February by the Leader of the Congress party, Mr. Desai. This amendment was to the effect that, as the proposed new Constitution had been "conceived in a spirit of Imperialist domination" and would transfer "no real power to the people of India", it should not be introduced. The amendment was rejected by 72 votes to 61. The President (Sir Abdur Rahim) next desired to take the amendment standing in the name of the Leader of the Independent party (Mr. Jinnah). That was divided into three parts. The first related to the Communal Award, the second to the scheme of provincial Government, and the third to the scheme of Central Government.

To the first part of Mr. Jinnah's amendment Mr. Desai himself moved an amendment that the Assembly should " refrain from expressing any opinion at the present juncture either accepting or rejecting the Communal Award ". This was rejected by 84 votes to 44. The House then divided on the first part of Mr. Jinnah's amendment, which was that " This Assembly accepts the Communal Award, so far as it goes, until a substitute is agreed upon by the various communities concerned ". This was adopted by 68 votes to 15. The House then divided on the second and third parts of Mr. Jinnah's amendment taken together. These were adopted by 74 votes to 58. The second part declared that as the scheme of provincial Government included " various objectionable features " it would " not satisfy any section of Indian opinion " unless these features were removed. The third part described the scheme of Central Government or All-India Federation as " fundamentally bad and totally unacceptable ", and declared that " immediate efforts should be made to consider how best to establish in British India alone real and complete responsible government ".

During the course of the session the Opposition carried several divisions against Government. The most important of these was perhaps that involving the repudiation by 66 votes to 58 of the Supplementary Trade Agreement of the 9th January 1935 with His Majesty's Government in the United Kingdom. The Agreement was supported by Mr. (now Sir Hormusji) Mody, an expert on Indo-British trade relations. The chief point made by the Opposition was that the Agreement was one-sided and against India's interests in that, where it provided for positive advantages, these were to accrue to the United Kingdom with no corresponding concessions to India.

The expenditure budget proposals presented on the 28th February afforded relatively little scope for criticism. A striking and novel feature was the allotment of Rs. 1 crore out of the surplus of the year 1934-35 to the provinces for the economic development and improvement of rural areas; it was generally conceded that this constituted a step in the right direction. Criticism was mainly directed to the decision not to continue the emergency cut in Government servants' pay and to the failure to remove more than one-third of the emergency surcharge on income-tax. During the course of the debate substantial alterations were made by the Assembly in the

Finance Bill, particularly in regard to the salt duty and the Posts and Telegraphs rates, with the result that the Governor-General had to exercise his powers of certification. The whole of the demands for grants for the Railway Board and the Defence Department for the year 1935-36 (with the exception of Re. 1 each) and the whole of a supplementary demand for Customs for 1934-35 were refused by the Assembly and the Governor-General had to restore them.

On the other hand, the proceedings in the Upper House (the Council of State) were conducted in a calm atmosphere and all the important measures were passed. The strength in this House is elected members 33, nominated non-officials 14, and officials 12.

In the provincial legislatures the debates on the report of the Joint Parliamentary Committee were moderate in tone. The resolution passed in the Punjab Council on the 17th December was that "the report of the Joint Parliamentary Committee does not satisfy the aspirations of Indians". The United Provinces and Frontier Province Councils accepted the Governments' non-committal resolution that the report be taken into consideration. Several of the resolutions, as for example those passed by the Madras Council, were very long and detailed. There was much criticism of the avoidance in the report of reference to the phrase "Dominion Status". The Central Provinces Council on the 2nd February passed a resolution that "the scheme adumbrated in the report of the Joint Parliamentary Committee is unsatisfactory, unacceptable and unworkable unless the Constitution Act confers Dominion Status on India". Uneasiness on this question, however, was largely disposed of by the Secretary of State's declaration in the House of Commons on the 6th February—though dissatisfaction was still expressed at the delay in clarifying the position.

The Princes and Federation.

During the early part of the year the affairs of the Indian Princes came into prominence.

In his speech opening the session of the Chamber of Princes, the Viceroy, referring to the new constitution, expressed the hope that the Princes, while mindful of their particular interests, would take their share in the promotion of constitutional progress for the common good of British India and the Indian States. A resolution was passed defining the attitude of the States towards the report of the Joint Parliamentary Committee. It disposed of the rumours

that the Princes were resiling from their adherence to the project of an All-India Federation.

The proposals of the Joint Parliamentary Committee in as far as they affected the federal scheme were examined by a committee of States' Ministers. The result of this committee's work was communicated to the Government of India. The Princes expressed their inability to accept the Government of India Bill as it stood, explaining their reasons, and asked that the points of difficulty should be further examined with a view to facilitating the States' entry into federation. Several of these were found to be outside the scope of the Bill. The range of the Princes' representation was, therefore, narrowed. The remaining difficulties were cleared by the White Paper of the 19th March, which proposed modifications in the presentation of certain details of the Bill. Further, it dispelled any suspicion that His Majesty's Government had departed from agreements arrived at or assurances given. The document was on the whole not unfavourably received in British India, though in nationalist circles the view was expressed that His Majesty's Government had gone too far towards conciliating the Princes.

Riot at Karachi.

On the 19th March a serious incident occurred at Karachi after the execution of Abdul Qaiyum, a Muslim who had murdered a Hindu alleged to have insulted Islam. Abdul Qaiyum's body was taken by the District Magistrate, accompanied by a police party, to be handed over to the deceased's family for burial outside the city. A huge crowd, estimated to be about 25,000 strong, collected at the place of burial. Though the relatives of Abdul Qaiyum wished to complete the burial at the cemetery, the more violent members of the mob determined to take the body in procession through the city. The local authorities decided to prevent the mob entering, since this would have led to communal rioting. All attempts of the police to stop the procession failed, so a platoon of the Royal Sussex Regiment was brought up. It was forced to open fire at short range to stop the advance of the frenzied mob and to prevent itself from being overwhelmed. Forty-seven rounds were fired by which 47 people were killed and 134 injured. The arrival of reinforcements prevented further attempts to advance. The wounded were taken to the Civil Hospital and the body of Abdul Qaiyum was then interred without further trouble.

The Reserve Bank.

An important development in the sphere of finance was the establishment on the 1st April of the Reserve Bank of India. It assumed responsibility for the management of currency and exchange, and for providing sterling resources for the Government of India. The Gold Standard Reserve and the Paper Currency Reserve were amalgamated and transferred to the control of the Bank. The Bank is at present continuing to issue Government of India currency notes, but in due course these will be replaced by the Bank's own notes. The Bank did not assume its full responsibilities as the head of the credit organisation of India until the beginning of July, when the scheduled banks were required to make their deposits. From that date the Reserve Bank became a central bank in the full meaning of the term and on the 4th July declared its bank rate for the first time.

Silver Jubilee Celebrations.

In May, the celebrations of the Silver Jubilee of His late Majesty King George V were conducted with great enthusiasm throughout India and formed a striking testimony to the genuine feelings of affection and loyalty in which His Majesty was held.

The festivities included sports, fairs, illuminations, the distribution of food and alms to the poor, and entertainments in schools and hospitals. An outstanding feature was the prayers of thanksgiving offered in places of worship of every creed and caste. The services were not conventional; they were imbued with simple devotion, every class, rich and poor, joining in prayers for His Majesty. Political agitation and communal differences were set aside in the eagerness to participate.

The fidelity of the Princes to the Crown was lavishly demonstrated. Festivities were organised on a princely scale and in Hyderabad particularly the occasion evoked much enthusiasm as the 25 years' reign of His Majesty almost synchronised with the period of rule of the Nizam.

The generous response to the appeal issued by the Viceroy and Lady Willingdon in instituting the Silver Jubilee Fund gave proof of the manner in which the Princes and people of India wished to give practical expression of their loyalty. It was announced that the fund would be devoted to the relief of distress amongst the poor and other philanthropical objects. Three-fourths of the amount collected was returned for use in the districts from which the con-

tributions had come. In this manner all districts have been able to employ the money to meet their urgent needs and most towns now have hospital wards and accessories, water supply arrangements, additions to schools or other material benefits to commemorate the occasion. The fund reached the impressive total of Rs. 143 lakhs or about £1,075,000.

The Quetta Earthquake.

The earthquake which devastated Quetta and the surrounding district at 3 A.M. on the 31st May ranks as one of the most disastrous catastrophes of Nature that has visited this country. About 25,000 people perished, of whom the vast majority lay buried in the ruins of their houses. The epicentral area was roughly 70 miles in length and 15 miles in width stretching from Quetta through Mastung towards Kalat, but the greatest destruction was wrought in Quetta itself.

The troops providentially escaped with comparatively few casualties and thousands of survivors owe their lives to the effective manner in which the troops were organised for rescue work. Within less than an hour of the calamity General Karslake (the General Officer Commanding-in-Chief, Western Command), in collaboration with Sir Norman Cater (the Agent to the Governor-General), had decided upon his plan of action and before daylight British and Indian units were engaged in rescuing the living and excavating the dead in the city and civil lines. Areas were sub-divided into unit allotments, medical aid posts were arranged and ambulance services organised. Arrangements were also made at points outside the city for the burial or cremation of the dead. A refugee camp was established on the race course, where thousands of survivors were fed and clothed.

Fortunately also the railway line was little damaged and owing to the excellent arrangements made by the railway staff it was possible to begin the evacuation of refugees on the 2nd June. By the 17th about 32,000 survivors had left by rail. Elaborate arrangements were made in the Punjab, Sind and the North-West Frontier Province for the care of the destitute and injured. Camps were established and the refugees were fed and provided with clothes and medical comforts and with money for their immediate needs. Valuable help was received from volunteer organisations and no effort was spared to alleviate the lot of the sufferers. It is invidious

to mention particular names but the fine work done by a party of Rover Scouts from Lahore under Mr. H. W. Hogg deserves special praise.

Early in July the Viceroy and Lady Willingdon and the Commander-in-Chief (Sir Philip Chetwode) visited Quetta. The state of affairs was considered in detail and it was decided to give effect to the recommendations of the Public Health Commissioner, who had been deputed to report on the situation and examine the practicability of resuming salvage operations. These recommendations in brief were that immediate salvage operations on a large scale were inadvisable, but that preliminary operations in suitable areas could soon be begun. Systematic salvage began on the 16th September and was completed on the 21st March 1936. A total of 12,607 houses and shops were salvaged, property worth Rs. 57 lakhs was recovered and handed over to owners and over 8,000 dead bodies exhumed.

A few days after the disaster a relief fund was opened by the Viceroy and a comprehensive scheme was worked out for the distribution of relief. The response to His Excellency's appeal was generous and swift, the contributions reaching the impressive total of about Rs. 54 lakhs. In addition, the world-wide sympathy evoked by the tragedy found expression in welcome contributions from the Government of the United Kingdom and several Dominion and foreign Governments. The Government of India sanctioned a grant of Rs. 10 lakhs to ensure the provision of adequate funds for the purpose of immediate relief.

As regards the future of Quetta, the Government of India have decided, after full consideration, that the Army and Air Force shall continue to occupy the present cantonment and that the city shall be re-built on the existing site, the buildings being of earthquake-proof type. The task of re-construction, which is expected to cost about Rs. 8 crores, will necessarily take long and cannot be completed in less than 7 or 8 years.

Geologically, the Quetta earthquake was a smaller phenomenon than the Bihar earthquake of the previous year. The fact that it proved more destructive of human life seems to have been due to its having happened in the early hours of the morning when people were

asleep. Quetta, moreover, was a larger city than any that lay within the epicentral area of the Bihar earthquake.

Communal Riots at Lahore.

Serious trouble arose in Lahore on the 29th June as a result of a dispute between Muslims and Sikhs about a mosque situated within the precincts of a Sikh temple known as the Shahidganj *gurudwara*. Trouble had been brewing for some time. Ill-feeling became intensified when the Sikhs started to demolish the mosque despite Muslim protests. The building had been in possession of the Sikhs for 170 years and has been the subject of prolonged litigation, which has confirmed the Sikh right of possession.

On the night of the 29th June a crowd of 3 or 4 thousand Muslims assembled in front of the *gurudwara*. A struggle between this crowd and the Sikhs inside the *gurudwara* was only averted by the prompt action of the local authorities. They subsequently obtained an undertaking from the Sikhs to refrain from further demolition. But during the following week, while strenuous efforts were being made to persuade the leaders to reach an amicable settlement, the Sikhs under pressure of extremist influence again set about demolishing the mosque. This placed the authorities in a most difficult position. The Sikhs were acting within their legal rights. Moreover the only effective method of stopping demolition would have been to resort to firing. As the building was full of Sikhs and was within the precincts of a Sikh place of worship, this would not only have caused much bloodshed but, for religious reasons, would have had serious reactions on the Sikh population throughout the province. On the other hand, inaction by Government was bound to cause great indignation among the Muslims, for religious reasons also; and it was expected that this would show itself in sporadic attacks on the Sikhs and perhaps on the forces of Government.

It was hoped that discussions between leaders of the two communities would effect some *rapprochement*, but mischief-makers inflamed the minds of their co-religionists. Despite the arrest of the chief offenders, the excitement increased. The Government's gesture in offering to restore to the Muslims another mosque which they had purchased years ago proved unavailing. The situation took a further turn for the worse on the 19th July and during the following two days the situation was acutely dangerous. The central

police station was practically besieged by huge crowds, which assumed a most menacing attitude. Repeated attempts to disperse them without the use of firearms failed and the troops had to fire twice on the 20th July and eight times on the 21st. In all 23 rounds were fired and 12 persons killed. Casualties, mostly of a minor nature, were numerous amongst the military and police.

As a result of the firing the crowds dispersed and did not re-assemble. Extra police were brought in from other provinces and the military garrisons were strengthened. Administrative control was re-established rapidly, but the religious leaders continued to fan the embers of the agitation. Civil litigation was renewed and certain Muslim organisations framed some extravagant demands.

The situation in Lahore continued to cause anxiety up to the close of the year. On the 6th November a Sikh was mortally wounded by a Muslim. Three days later a huge Sikh-Hindu procession was taken out. The organisers appeared anxious to avoid conflict but nonetheless one serious clash occurred. This was followed by further rioting on the next day, but owing to good work by the police and the troops in breaking up the fights quickly, the casualties were small.

Although after the beginning of the new year the situation still presented dangerous possibilities, it is believed that the measures which the Punjab Government have taken will prevent further disturbances; these measures are now more generally recognised as necessary.

The New Government of India Act.

The debates in Parliament during the earlier part of the summer on the new Government of India Bill were closely followed in India. The passage of the measure, which obtained the Royal Assent on the 2nd August, brought to an end the tremendous task of framing a new constitution for India, which had occupied attention since the Indian Statutory Commission started work in 1928.

Put simply, the Act provides for the establishment of autonomous Governments in the provinces with certain essential safeguards vested in the Governors and for an all-India federation of autonomous provinces and States with a responsible Federal Government, except in the Departments of Defence and External Affairs, which are reserved to the control of the Governor-General. The

latter is vested with special responsibilities in such matters as the prevention of grave menace to the peace and tranquillity of India, the safeguarding of the financial stability and credit of the Federal Government and the safeguarding of the legitimate rights of the minorities.

Before their final consolidation in the Act the proposals for constitutional reform had been the target of vigorous criticism in Indian nationalist circles. It was alleged that they fell far short of India's demands and failed to give her real responsibility for her own Government. But the possibilities of obtaining further concessions by pressure or denunciation ceased when the measure reached the statute book, and the press began to focus public opinion on the practical implications of the impending changes. While the English-owned and the more moderate Indian papers expressed the view that the reforms embodied in the Act represent a real and substantial advance towards responsible government, nationalist papers declared themselves opposed to the scheme, largely on the ground that the special powers conferred upon the Governor-General and Governors would, in their view, be invoked without justification. By the close of the year theoretical discussion of the merits of the scheme had almost ceased and interest was shown in the actual steps which were being taken to prepare for the inauguration of the new constitution. There appeared to be increasing recognition that in the existing condition of India the Act represented a sound solution of the problem of reconciling legitimate political demands with the need for providing a workable system of government.

Simla Session of the Central Legislature.

During the session of the central legislature in Simla in September some controversial subjects came up for discussion. The debate on the Bill by which Government sought to place certain provisions of the Criminal Law Amendment Act and of the Indian Press (Emergency Powers) Act permanently on the statute book lasted for six days. The opposition to it was based more on the ground that the existing law was sufficient than on denial of the existence of the evils which the Bill was designed to meet. It was further contended that the Criminal Law Amendment Act was passed to counter the Civil Disobedience movement and that as that movement had ceased there was no justification for continuing the Act. Government held that experience had proved the ordinary law to be

inadequate and that the provisions of the Bill were essential to hold in check subversive movements and also to prevent incitements to communal strife.

The motion for consideration of the Bill was rejected by the Assembly. The Bill was thereafter returned to the Assembly by the Governor-General in recommended form. The Assembly on the same day rejected the motion for the introduction of the Bill as recommended. Since the Bill was considered essential in the interests of the safety and tranquillity of British India, it was certified by the Governor-General under the provisions of section 67B (1) (*b*) of the Government of India Act. The Bill was then taken up in the Council of State, which passed by 35 votes to 10 the motion that the Bill be taken into consideration and accepted without a division the motion that it should be passed.

In an address to the legislature on the 16th September, the Viceroy had discussed the necessity for the Bill and emphasised that on the eve of great constitutional changes, it was imperative to ensure favourable conditions for the stability of the new Governments.

Another controversial debate was on a resolution by the Congress party recommending the appointment of a Committee to enquire into the handling of relief operations in connection with the Quetta earthquake. Government vigorously repudiated some of the suggestions made by members of the Opposition and the Home Member (Sir Henry Craik) enquired whether there was any lower form of "exploitation" than the exploiting of this dreadful tragedy, which had horrified the whole world, in order to gain a political advantage. The resolution was defeated by 61 votes to 57.

The rest of the session was comparatively uneventful.

Rural Development Scheme.

As has been mentioned, the Government of India allotted under the budget Rs. 1 crore for distribution to the provinces for the economic development of rural areas. The money was to be spent on schemes designed to increase the economic welfare of the people as well as those intended to improve their health and education. Of the sum allotted Rs. 15 lakhs were set aside for developing the co-operative movement. The balance was distributed amongst the provinces on the basis of their rural population. As soon as the demand was sanctioned, local Governments were asked to submit

schemes for the approval of the Government of India. A lead was given by indicating to them subjects which in the view of the Government of India covered the most pressing needs of village life. These were: sanitary measures,—including anti-malaria schemes, village water-supply and village drainage; consolidation of holdings; construction of village roads; and discretionary grants to District Officers to enable them to promote or assist minor local works of improvement.

The scope for initiative in using the grant is great, as was illustrated by the proposals put up by the provinces. Some proposed to spend most of their allotment on projects of the general description indicated by the Government of India, but several schemes were put forward covering a wide range of activity, some of them representing entirely new departures which might in time transform the conditions of village life.

The nature of the various provincial proposals cannot be described in detail, but some of the interesting projects beyond the general range can conveniently be summarised as follows: improvements of livestock and fodder crops; development of marketing facilities; improved preserving and tanning of hides; encouragement of cottage industries; attachment of farms to schools for giving practical training in agriculture; development of fruit culture and canning; provision of improved seed; establishment of inland fisheries; and provision of wireless sets, gramophones and touring cinema outfits for propaganda work connected with village uplift.

The preliminary arrangements for launching the schemes took time and many of them could not produce substantial results by the close of the year. However, the reports received from the provinces show that a comprehensive programme of rural uplift work has been started and good use is being made of the money available. Much has been achieved, particularly in the improvement of water-supply by well-boring, in the provision of pedigree stock for improving cattle breeding and in the distribution of selected seed. Progress has also been made in the consolidation of holdings and in the improvement of village communications. One of the main features in the scheme is the rapid establishment of rural development centres and village development committees.

The Terrorist Movement.

The diminution in terrorist activity recorded in the last report has been maintained. The situation can best be described by quoting from the speech of the Governor of Bengal (Sir John Anderson) on St. Andrew's day. He said, "Without being over-confident, I may fairly say that the main onrush of that wave (the last wave of terrorism) has been broken and I gratefully acknowledge the manner in which, during the last year or two, public opinion has come to our aid. Let me, however, utter a word of warning. The history of terrorism shows that it has always come in waves and that if it is neglected when one wave has spent its force, the next wave is bigger and more violent. There still remain in Bengal materials for the reorganisation of terrorist activity and would-be leaders who are only biding their time. Our vigilance cannot be relaxed and unremitting search must continue both for the secret organisers and the hidden apparatus of mischief. But at the same time it is our duty to spare no effort in the task of reclaiming to useful avenues of employment those who have been misled and are prepared, if given the opportunity, to return to saner ways".

Events on the North-West Frontier.

Tribal affairs in these reports have normally been discussed in the chapter relating to "Defence". But whereas that chapter covers the financial year, the "Political" chapter covers the subsequent calendar year. Thus to deal with the subject in this chapter enables us to bring it more up to date.

Important operations within the tribal areas took place on two occasions during 1935. On the first occasion, in April, the operations centred on the village of Agra, which lies in the protected part of the Malakand Agency. This region had for many years been the scene of trouble and has recently been invaded by the Faqir of Alingar and his followers. The Government, with the agreement of the protected tribes, decided to build a road to Agra and to establish a levy post there to protect the inhabitants. The Faqir believed this would undermine his influence and attempted to stop the work. He raised a *lashkar* from the fanatical Bajaur tribes and the Utman Khel and crossed the Swat river.

The Nowshera Brigade was sent out to disperse the *lashkar*. The column met with determined opposition but finally reached Agra on the 11th April. In the course of driving the tribesmen back over the river the Political Agent, Mr. L. W. H. D. Best, was killed.

He was ambushed when leading a party of levies, 7 of his party being wounded. In Mr. Best Government lost a valuable and able officer. Despite further efforts by the Faqir to incite the tribes, the situation remained quiet. The road was completed in June and the Frontier Constabulary occupied the new post.

In August, serious trouble broke out in the Mohmand country. It originated in a quarrel amongst the Burhan Khel and Isa Khel tribes over the distribution of money obtained from contracts for constructing the Gandab road. The Haji of Turangzai lost no time in fanning this discontent. He raised all the Upper Mohmands and attempted to destroy the Gandab road. This necessitated land and air operations against the Mohmands and Safis. In September the Governor of the Frontier Province (Sir Ralph Griffith) informed the tribes that Government would send troops across the Nahakki Pass, which separates lower and upper Mohmand country, unless they accepted Government's terms. This proclamation resulted in many sections entering into peace negotiations, but while they were making their submission the recalcitrants were reinforced by tribesmen from the more remote Mohmand areas. Operations were renewed and the Nahakki Pass was occupied. It was then decided to round up or disperse the tribesmen on the Kamalai plain, which lies over the Pass. In the morning of September 29th the Guides Infantry encountered heavy opposition when reaching their final objective on top of a precipitous spur. In the ensuing engagement the Guides fought with great gallantry, inflicting very heavy losses among the tribesmen. The total casualties to the troops were 83. Captain Meynell and Lieutenant Rendall were killed. The former was posthumously awarded the Victoria Cross. In October the Mohmands submitted and Government's terms were announced to the maliks on the 15th. These included the completion of the road to Nahakki and the abrogation of the previous agreement in so far as it restricted Government's liberty of action in dealing with breaches by the tribes of Government orders. The tribes' behaviour for the rest of the year was satisfactory and in the winter they moved down in unusually large numbers to the Peshawar plains.

Before closing this section some reference is necessary to the negotiations with the Afridis for constructing a road through their country. In January representatives of the tribe agreed to abandon

their traditional policy of isolation and petitioned the Government to construct roads and assist in the development of their territory. Work was started in the following month, but soon suffered a set-back at the hands of a *lashkar* organised by an anti-road party. The work was resumed in March, but owing to further opposition and lack of co-operation from the maliks, it was finally stopped at the end of the month. Subsequent negotiations have been fruitless.

Relations with Neighbouring Countries.

This chapter will conclude with brief references to developments of interest in connection with the affairs of neighbouring countries.

Iran.

The Iranian Foreign Minister visited India during November and December. Several questions of common concern to India and Iran were discussed. Though the conversations were non-committal, they facilitated a frank exchange of views on such difficulties as had arisen in the relations between the two countries. On the Indian side mention was made of disabilities experienced by Indian pilgrims to Meshed and of the desirability of concluding an agreement to regulate lorry traffic on the Nokkundi-Zahidan road. On the Iranian side attention was drawn to the recent imposition of control on exports of tea over the frontier, in pursuance of the international tea agreement. His Majesty's Minister in Tehran visited India at the same time as the Iranian Foreign Minister and his participation in some of the discussions proved helpful.

Iraq.

Externment notices issued against certain Indians in Iraq attracted unfavourable attention in India. It was said that these had been issued under new legislation purporting to restrict some forms of unskilled labour to Iraqis. Enquiries, however, showed that the notices had nothing to do with the new legislation and that the Iraqi Government were unlikely to take action which would seriously disturb Indians now working in Iraq, many of whom are contributing to the development of Iraq industries.

Italy.

India, as a member of the League of Nations, was asked to enforce the economic and financial sanctions against Italy recommended by the Co-ordination Committee of the League. The Government of India accordingly issued, on the 18th November, an Ordinance called "The Italian Loans and Credits Prohibition Ordinance,

1935 " and three notifications under the Sea Customs Act prohibiting the export of arms and certain commodities to Italy and Italian possessions and the importation of Italian goods to India.

Nepal.

In January His Highness the Maharaja of Nepal paid a visit to India as the guest of the Government. The visit coincided with the Eastern Command manœuvres, which were watched with keen interest by His Highness, who also took the salute at a march past of troops returning to Delhi Cantonment after the conclusion of the manœuvres. The friendship and mutual confidence between India and Nepal continues.

Chinese Turkestan.

The situation in this area remained obscure. Civil turmoil caused dislocation on the trade routes between India and Sinkiang over the Karakoram Passes, and Indian traders suffered much hardship and loss. In order to improve British and Indian trade with Sinkiang a special mission consisting of His Majesty's Consul-General in Kashgar and Sir Eric Teichman of the China Consular Service, was sent to Urumchi, the capital of the province of Sinkiang, in October 1935, to discuss matters with the local Chinese authorities. It is hoped that as a result of these deliberations the difficulties in the way of this trade will be reduced.

Afghanistan.

Relations continued to be satisfactory. The Government of India are endeavouring, as a result of the report of the trade delegation which visited Afghanistan last year, to lessen the difficulties to Indian traders created by the recent adoption by the Afghan Government of a state trade monopoly system.

CHAPTER VII.

Health and Education.

Scope of Chapter. As explained in previous reports, though public health and education are primarily the concern of provincial Governments, the Central Government still exercises certain residuary and co-ordinating functions in respect of them. In the sphere of public health, these functions consist chiefly in preventing the introduction of infectious diseases from outside India, their spread from province to province within the country and their dissemination from India to other parts of the world. In regard to education, the Government of India's main responsibilities relate to areas which are centrally administered, to Chiefs' Colleges and to the Universities of Delhi, Benares and Aligarh. This chapter will deal solely with these aspects of the two subjects.*

Public Health. Retrenchment. Though the effects of the retrenchment of 1931-32 on the central health organisation continued to be acute, proposals to augment the present inadequate establishment were taken into consideration and the post of Director of Public Health in the Central Provinces, which had been amalgamated with that of Inspector-General of Civil Hospitals as a measure of economy, was revived towards the end of October 1934. **Indian Medical Service.** There were again considerable demands from the provinces for Indian Medical Service officers, some of which could not be met in full.

Medical Council of India. The Medical Council of India, which came into existence on the 1st February 1934 in pursuance of Act No. XXVII of 1933, appointed a panel of Inspectors to inspect the courses of instruction and the examinations at the various British Indian Universities. They completed their inspection of the Patna University during the year under report and the inspection of other Universities was proceeding. The Council also adopted a series of recommendations

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*The statements made here on medical matters are provisional. Authoritative pronouncements on these subjects are contained only in the annual report of the Public Health Commissioner with the Government of India (the latest of which, at the time of writing, relates to the year 1934), and associated publications.

on professional education and professional examination, from which considerable benefits are expected to accrue to the profession and the public alike.

Epidemic Diseases.

In regard to the three principal epidemic diseases which ravage the population—cholera, smallpox and plague—we have regretfully to record some deterioration of the position. It should be made clear, however, that on the whole, and judging from recorded statistics, which are not reliable, the year was a moderately healthy one, the general death rate, though in excess of that of 1933, being the second lowest of the past decade.

Cholera.

The cyclic increase of cholera mentioned in last year's report continued during 1934, the total number of cases reported being 281,791, as against 133,079 in 1933 and 70,000 in 1932. The largest number of cases (152,002) occurred during the third quarter of the year, as is customary. The epidemic was severe in Bihar and Orissa, which recorded 61,540 cases, Bengal with 59,174 cases; the Central Provinces with 50,649; Madras with 29,427; the United Provinces with 27,205; and Bombay with 26,751. Elsewhere the incidence was mild. The number of recorded deaths rose from 68,318 or 0.3 *per mille* to 199,708 or 0.7 *per mille*, or an increase of over 192 *per cent*. A study of statistics for the years 1877 to 1933 gave no clear evidence of a significant fall in cholera mortality in British India during this period, possibly because the increasing benefits of preventive work have been neutralised by improvement in the registration of vital statistics.

Smallpox.

Recorded cases of smallpox increased from 250,366 to 261,242 or by 4.3 *per cent* roughly. The provinces mainly involved were Madras with 64,594 cases; Bihar and Orissa with 61,408; the Hyderabad State with 33,720; Bombay with 24,616; Bengal with 15,261; the United Provinces with 14,741; and the Central Provinces with 11,469. Other provinces reported low incidences. It is gratifying to note that though incidence was higher than in 1933, mortality was lower. Against 103,641 deaths from smallpox in that year, 83,928 occurred in 1934. Except for small increases in the United Provinces, the Central Provinces, the Madras Presidency and Coorg, all provinces recorded low death rates. In fact, the mortality curve has shown a downward tendency since 1920. This is encouraging.

Plague. Reported cases of plague during 1934 totalled 103,271 or 10,149 more than in 1933. The total is the highest observed in recent years, the increase being largely due to epidemics early in the year in the United Provinces, the Punjab, the Bombay Presidency and Hyderabad State. No less than 58,651 cases were recorded during the first quarter. Mortality also was high, in fact nearly double that of 1933 (80,133 against 42,631), 60 *per cent* of the total occurring in the United Provinces, which was the focus of the epidemic.

Venereal Diseases. As accurate statistics for these diseases are not available, the numbers of attendances at hospitals and dispensaries have again been used to estimate their prevalence. The figures must therefore be accepted with caution. Of every 10,000 cases attending these institutions in British India during 1933, approximately 80 suffered from venereal diseases. The provinces recording the highest rates were Burma, 170 *per* 10,000; Delhi, Madras and Bombay, 130 each; the Central Provinces, 100; Bihar and Orissa, 90; and the United Provinces and Bengal, 80 each. Hospital returns for 1934 show a decrease in the number of cases treated except in Madras, Bengal and the North-West Frontier Province. The indications are that these diseases occur chiefly among the poorer classes, in the great seaport cities, in large towns inland and in certain hill tracts, especially the Himalayas.

Leprosy. Last year's report gave some account of the obstacles to be overcome in fighting leprosy and of the measures adopted to surmount them. Despite these obstacles and financial difficulties, the anti-leprosy campaign continued to progress during 1934 by means of propaganda, surveys, research, training of doctors, establishment of clinics, *etc.* Research work was carried out in the School of Tropical Medicine, Calcutta, and the Madras system of District Leprosy Councils was most successful in extending the campaign to rural areas. Similar work done by the Rural Investigation Centre in the Bankura district of Bengal was also very promising. The results showed that 78 *per cent* of the villages in that district are affected and one in every six families harbours leprosy cases. The extent of leprosy still remains an unknown quantity and knowledge of its incidence and endemicity is imperfect; but the results of intensive local work have been so reassuring that the Governing Body of the British Empire Leprosy Relief Association (Indian Council) take an

optimistic view of the future. To quote from its report for 1934, " thousands of lepers are now under proper treatment and one cured or improved case brings within the purview of the treatment centres more than a hundred lepers."

Tuberculosis.

The period over which tuberculosis has been endemic in India is not easy to determine. Charaka and Sushruta, writing about 500 B. C., gave descriptions of this disease; but it seems unlikely that it was widespread at that early period. Its wide distribution in recent years must be due largely to increase of urbanisation, which produces over-crowding and other conditions favourable to tuberculosis. The present position would appear to be that, whereas the towns are heavily infected, the rural population has, for the most part, not yet experienced the full force of the disease. Information regarding the incidence of tuberculosis is lamentably deficient and its collection is hindered by many obstacles including the *purdah* system, the ingrained prejudice against hospitals, and the tendency to conceal disease until the development of symptoms makes concealment impossible. The indications are, however, that, generally speaking, the people of India are highly susceptible to tuberculosis and among most of them the disease takes a virulent form and runs a rapid course. On the basis of data collected from medical officers and others throughout India, the Director-General, Indian Medical Service, (Major-General Sir John Megaw) reported that there were probably two million cases of tuberculosis in India in 1932. He thought, however, that this estimate was much too low. In his opinion the disease is very widespread throughout the villages of India, is specially serious in Bengal, Madras, the Punjab, Bihar and Orissa and is increasing steadily and rather fast. Statistics of deaths from tuberculosis are also very scanty; but from such information as is available it would appear that the total mortality in 1934 was just over 51,000.

Though the disease has been increasing rapidly of recent years, measures to cope with it, and particularly to prevent its occurrence, have by no means been lacking. Prominent among these is the King George Thanksgiving (Anti-Tuberculosis) Fund, administered by the Indian Red Cross Society. At present the Fund directs its energies to bringing home to the public the urgency of the tuberculosis problem. A propagandist and educative campaign has been organised

in British India as well as the Indian States with a view to educating the people about the causes of, and preventive measures against, tuberculosis. The Fund also aims at improving the training of medical students and practitioners, so as to enable them to give the unfortunate victims the benefit of up-to-date methods of diagnosis and treatment. With this object in view, grants are made to medical schools from time to time and in February 1935, a special intensive training course in tuberculosis was organised in Calcutta. The outstanding event of the year was the first King George Thanksgiving (Anti-Tuberculosis) Fund Conference. It was held in November 1934 and was attended by representatives of various provincial and State anti-tuberculosis committees, sanatoria, the All-India Institute of Hygiene of Calcutta and the Indian Research Fund Association. It is encouraging to note that all over India, especially in the big cities and towns, which are the chief centres of the disease, people are talking about it, the press is writing about it and public opinion is being marshalled against it.

Medical Research.

In the field of medical research, the Indian Research Fund Association continued to do useful and important work despite financial stringency. As the Government grant-in-aid to the Association for 1934-35 again stood at the low figure of Rs. 1.5 lakhs, the programme of researches had once more to be restricted. Only 29 enquiries (as against 31 in 1933-34) could be undertaken at an estimated cost of Rs. 6,95,663. The investigations carried out related to cholera, plague, malaria, anti-rabic vaccine, kala-azar, tuberculosis, leprosy, helminthological and nutritional diseases, the use of bacteriophage in dysentery and cholera, maternal mortality and child birth, skin diseases, filariasis, cancer, protozoal parasites, oriental sore, indigenous drugs, drug addiction and bone ossification. The incidence of the main epidemic diseases was also analysed statistically. The grant towards the cost of two Chairs at the School of Tropical Medicine, Calcutta, was again sanctioned in full; but as a result of negotiations with the Government of Bengal and the Government of India, it was tentatively decided that the Association should pay only one-third of the total cost of these Chairs, the remainder being met either by the Government of India alone or by the Government of India and the Bengal Government in equal shares. The grant towards the salary of the Director of Leprosy was continued, as was also that of Rs. 15,000 to the Assam Medical

Research Society. The Association, however, decided in March 1935 to discontinue both these grants from the beginning of the year 1936-37. The contributions of £100 and £150 respectively to the Imperial Institute of Entomology and the Bureau of Hygiene and Tropical Diseases, London, were renewed and an officer was selected for the vacant post of Assistant Professor of Public Health Administration at the All-India Institute of Hygiene and Public Health. He had not, however, actually taken up his duties at the end of the year under report.

***Haj* Pilgrimage.**

Previous reports have outlined the history of the Standing Committee on Pilgrimage and have described other important measures adopted on the advice of the *Haj* Enquiry Committee. Indeed, last year's report was anticipatory in that it dealt with the position of one of these matters, the Pilgrim Guides Bill, up to January 1935. With action on the main recommendations of the latter Committee practically completed, little remains to be done except to see that the laws promulgated are observed and the rules and orders issued are followed. Nevertheless, such opportunities as offered themselves for improving the conditions in which these pilgrimages are undertaken, were availed of during the year under review. For instance, a Port *Haj* Committee was established at Karachi in May 1934 under the Port *Haj* Committees Act, 1932; the Indian Pilgrim Ships Rules were amended in certain respects in the light of reports received on the conclusion of the pilgrim season of 1933-34, and as usual, a revised edition of the "Guide for Pilgrims to the Hejaz" was issued in English and Urdu. The work of keeping this manual up to date and publishing it annually has now been entrusted to the Port *Haj* Committee of Bombay. It may be mentioned finally that 582 Indian pilgrims, who were left destitute at Jedda at the end of the pilgrim season, were repatriated at a cost of about Rs. 28,000.

International Co-operation in Public Health and Medical Matters.

India's co-operation in public health and medical matters of international interest was continued during the year under review. She was represented at the sessions of the *Office International d'Hygiene Publique* held in Paris in May and October 1934 and the Public Health Commissioner with the Government of India, as delegate of the Central Government, attended the ninth Congress of the Far Eastern Association of Tropical Medicine held at Nanking in October 1934, at which officers from the Madras

Presidency and the Bengal Presidency were also present. The delegates from India played important parts at the various sectional meetings. Description of the various medical researches being carried out in India always commanded close attention from the delegates of the other Far Eastern countries and it is not too much to say that the Indian work on cholera, plague, kala-azar, *etc.*, was generally accepted as pointing the way to preventive measures connected with these epidemic diseases. The Public Health Commissioner also took part in the meeting of the Advisory Council of the League of Nations Health Organisation, Eastern Bureau, which was held at Nanking.

The Drugs Problem.

It is unnecessary to iterate in this report what has already been said in previous ones in regard to the drugs problem, another matter of international concern, and of India's contribution to its solution. It will suffice to mention that though formerly one of the principal opium-producing countries of the world, her actual exports of this drug have for some years been appreciably less than permitted by the international agreements which now govern the matter. In pursuance of the policy (announced in 1926) of steadily reducing exports till they cease entirely, poppy cultivation in 1934-35 was about 3.8 *per cent* of the area sown in 1912-13 (the last year before exports to China were stopped), and about 9.3 *per cent* of the area sown in 1925-26 (the last year before the policy of steady reduction in other exports was adopted). Poppy-growing in British India is now practically confined to the United Provinces, where the area under cultivation in 1934-35 was 6,806 acres, *i.e.*, less than half that in the preceding year.

Legislation connected with Dangerous Drugs and Opium Smoking.

Turning to the subject of legislation connected with dangerous drugs and opium smoking, it may be mentioned that the Government of Burma had still under consideration the proposal to license smoking saloons, which was alluded to last year. They moved a Resolution in the local Legislative Council on the 16th February 1935 recommending ratification of the Bangkok Opium Smoking Agreement as far as Burma was concerned, but it was lost. In opposing the Resolution for reasons connected with local politics, however, one of the leaders of the opposition parties declared that the Agreement would be ratified after the separation of Burma from India. This indicates that there was no objection to the ratification

in principle. In August 1935, the Burma Legislative Council passed the Dangerous Drugs (Burma Amendment) Act, 1935, which gave effect to clause 2 of article II of the Agreement, and made it an offence to induce persons under 25 years of age to use prepared opium, to enter an opium-smoking establishment or to perform certain allied acts. The United Provinces Opium-Smoking Act, 1934, replacing the corresponding Act of 1925, received the assent of the Governor-General on 19th April 1934. It is wider in scope than the old Act though retaining its prohibition against opium smoking in company. The Government of Assam decided not to extend the Assam Opium Smoking Act to the backward tracts as recommended by the local Opium Enquiry Committee, since the extent to which the habit prevails in those areas is very small and on the wane. Moreover, the Act would be very difficult, and in some areas impossible, to enforce owing to difficulties of communication and lack of staff. The Act was, however, amended during the year to make possession of, and dealing in, prepared opium an offence. Section 8 of the Punjab Opium Smoking Act, 1923, in its application to the North-West Frontier Province was amended to include in the term ' owner ' a lessee of any place used for collective opium smoking.

Legislation connected with Liquors.

The Bengal Excise (Amendment) Act, 1934, which received the assent of the Governor-General on the 12th April 1934, brought under excise control *bhakhor*, a substance used as a fermenting agent in the manufacture of *pachwai*. The Burma Excise (Amendment) Act, 1934, received the assent of the Governor-General on the 3rd May 1934. This measure, while retaining the prohibition against the employment of women for the purpose of selling or serving alcoholic liquor, enables them to be employed for other purposes under conditions to be prescribed by competent authority.

Medical Relief for Women.

Financial stringency again hampered the work of the several semi-official and wholly private institutions which minister to the medical needs of women in India. Nevertheless, they continued their useful and praiseworthy activities to the best of their ability and even extended them slightly in certain respects, thanks to some improvement in the financial situation. It is to be hoped that this improvement is the harbinger of better times, which will enable these beneficent bodies to spread their efforts over a still wider field and especially to the villages, where the need is greatest.

Countess of Dufferin's Fund.

For the Countess of Dufferin's Fund, which administers the Women's Medical Service, supplies lady doctors to take charge of 26 hospitals for women in India and gives grants-in-aid to some of these hospitals, the year was noteworthy as being its jubilee year. The Fund was fortunate in having been selected by His late Majesty King George V and Queen Mary as one of the four institutions to benefit from the Silver Jubilee Fund and in having the Government of India's pre-retrenchment grant of Rs. 3,44,300 restored in full. As a result, it was able to undertake more work and to contribute a sum of Rs. 5,000 towards the construction of a hospital for women and children in Shillong. The number of patients treated and operations performed in hospitals in which the Fund is interested continued to increase.

Women's Medical Service.

As already indicated, members of the Women's Medical Service are employed chiefly in women's hospitals; but one was on deputation throughout the year at the All-India Institute of Hygiene and Public Health, Calcutta, as Professor of Maternity and Child Welfare. Her presence there gave a stimulus to the work done among the families of mill hands in the area. Two others were drafted to the Women's Medical School at Agra as Lecturers in Medicine and Pathology and a fourth served as Assistant to the Inspector-General of Civil Hospitals, United Provinces, the only province in which the arrangement exists, for the purpose of inspecting women's hospitals. Another important step in progress was the appointment of a Woman Medical Adviser on the committee of the United Kingdom Branch of the Association. Her advice and help proved of great use to young Indian doctors going to Europe for post-graduate study as well as to British doctors recruited in England for the Service.

Indian Red Cross.

The Indian Red Cross Society, the scope of whose work has been explained in previous reports, again contributed its valuable quota to social and medical relief, popular health education, rural welfare and allied activities, despite continued shortage of funds and the heavy toll taken of its resources by the Bihar earthquake and the Assam floods. A bright lining to the cloud of financial depression was, however, afforded by the fact that the Society was among the institutions selected to benefit from the Silver Jubilee Fund. Another encouraging feature of the year under review (1934) was a substantial increase in membership, *viz.*, from 12,500 to 15,912. A new State branch was

opened in Gwalior and the number of district branches rose to 181. In all, some 200 Red Cross committees were functioning actively at the end of the year under 23 provincial and State committees. In accordance with a working agreement reached at headquarters but applicable to provincial branches as well, all the ambulance responsibilities devolving on the Society under the Indian Red Cross Society Act, 1920, were taken over by the St. John Ambulance Association, which, in return, will receive financial assistance from the Society. Considerable progress was made in the scheme which the Society is carrying out in collaboration with the National Institute for the Blind, London, for the training of teachers in the prevention of eye diseases. Another notable event of the year was the production of the first standard film, "Prevention of Blindness", by the Cinema section at headquarters intended for purposes of education and propaganda. The influence of the Society shows signs of extending gradually into the villages and the possibilities of health propaganda among villagers during agricultural fairs are being recognised and utilised increasingly.

Junior Red Cross.

The Junior Red Cross, the adjunct of the Indian Red Cross Society which has its being among the ranks of the rising generation and aims at inculcating correct health and social-welfare principles in them, also made further headway during 1934, its membership at the end of the year having risen to 3,37,130 boys and 14,526 girls distributed among 9,002 groups in schools. In addition to their normal activities, these groups took particular interest and an active part in propaganda for the prevention of blindness, anti-epidemic work, rural hygiene and social service. The movement has clearly achieved considerable popularity and this augurs well for the future of the country.

Maternity and Child Welfare.

Another adjunct of the Red Cross Society which did a useful year's work is the Maternity and Child Welfare Bureau. Its main functions are to train health workers and midwives, to undertake child-welfare work among both the civil and the military population and to spread its teachings by means of propaganda. Despite the difficulties it encountered owing to shortage of funds, ignorance, superstition, social customs and apathy, it progressed again in each of its spheres of activity. The project to open a new health school in Burma, mentioned in last year's report, came to fruition during

the year under review and plans for a similar school in Bombay under the auspices of the Bombay Presidency Infant Welfare Society are well on the way to completion. A feature of the year was that economic conditions forced women from the middle and lower classes to turn in increasing numbers to midwifery as a profession and a means of livelihood. This is all to the good both because it means the gradual replacement of the old indigenous type of midwife by a superior one and because it ensures that a larger quantity of skilled assistance will be available. The Bureau's efforts and tenacity of purpose are being rewarded by a slow but steady improvement in the health of children in India; but there is still a great deal to be done, chiefly because it is so difficult to persuade the majority of parents of the superiority of prevention to cure.

St. John Ambulance Association.

During 1934, the St. John Ambulance Association and the St. John Ambulance Brigade Overseas, two branches of the Venerable Order of the Hospital of St. John of Jerusalem, which work in close collaboration with the Indian Red Cross Society, continued their useful and humane activities. The object of the Association is to train men, women and children in all walks of life in the art of rendering first-aid and in home nursing, hygiene, sanitation and cognate subjects; while the Brigade's purpose is to mobilise the personnel trained by the Association into a band of skilled, drilled and uniformed workers for duty during public fairs, festivals, sports 'meetings and the like and on occasions of national emergency, such as floods and earthquakes. The Association conducted the usual courses of training for both adults and children, at which 37,417 persons, representing a diversified field, received instruction. The biennial all-India competition, which is designed to stimulate interest in training, was held in Calcutta and, as usual, proved a great success. At the end of the year, the Brigade consisted of 59 Ambulance Divisions, 12 Nursing Divisions, 9 Cadet Ambulance Divisions and 6 Cadet Nursing Divisions. This marked an increase over the previous year's strength and represented a total membership of 2,466 organised into 5 districts, each in charge of an Assistant Commissioner, with headquarters at Lahore, Bombay, Calcutta, Madras and Mysore. The outstanding event of the year was the institution of a Voluntary Aid Department scheme for members of the Nursing Divisions with the object of providing a reserve of

trained nurses who may be called upon to supplement the medical services of the Army in India in time of war.

Boy Scout and Girl Guide Movements.

The Boy Scout and the Girl Guide movements maintained their progress during the year under report, membership of the former rising to 231,956, which represents an increase of 35,781. This is gratifying, as the movement is of inestimable value to the youth of the country, who will hold and mould its future. The total strength of Scouts was distributed among 18 provincial and 36 State Associations, the Punjab with 51,150 members being strongest among the former and Mysore, with 11,841 again leading the latter. Prominent among the events of the year were the reorganisation of the General Headquarters staff in accordance with the recommendation of the All-India Scouters' Conference; the appointment of a Chief Commissioner, a Deputy Chief Commissioner and a General Secretary; and the attendance of a contingent of Boy Scouts and Rovers at the Australian Jamboree in December 1934. Measures were also put in train for the formation of troops of Sea Scouts in various parts of the country. There were 12 instances in which Scouts displayed conspicuous bravery in saving life either from fire or drowning, and His Excellency the Viceroy, Chief Scout for India, was pleased to grant them Scout awards for gallantry.

In the matter of membership, the Girl Guide movement too registered an increase, the total strength standing at 38,129—substantially more than in the previous year. There were 20 provincial and State Associations, the latter including two new ones. Such has been the growth of the movement recently that it was found necessary to establish an All-India Headquarters office in Calcutta and there is pressing need of a qualified Trainer attached to General Headquarters but free to travel wherever required. Many new companies and flocks were started in vernacular schools; but as further progress proved impossible without more vernacular-speaking Guiders, the chief effort of the year was the training of suitable women for this work.

Education.

Coming now to the subject of education in so far as it concerns the Central Government, the most outstanding and important event of the year, and therefore the one entitled to pride of place, was consideration of a proposal to reorganise the entire system of teaching in India. In recent years, the present system has been subjected to

much adverse criticism and a desire has been expressed that Government should take early steps to render it more practical and useful. The question was discussed at the third conference of Indian Universities held in Delhi in March 1934, when two important resolutions were passed unanimously. The first of these emphasised the necessity for solving the problem of unemployment by a radical readjustment of the existing school system in such a way as to divert a large number of pupils either to occupations or to separate vocational institutions on the completion of their secondary education. This would enable the Universities to improve their standard of admission. The second resolution suggested that the whole school period should be divided into three stages—namely, primary, middle, and higher secondary—each being self-contained and having a clearly defined objective. Beyond these of course there would be University education. A formal examination would be held at the end of each stage only. This scheme of reconstruction was, after preliminary scrutiny by the Government of India, referred to local Governments and Administrations for consideration and comment. It is obvious that education cannot, by itself, create new industries and thereby increase opportunities of employment; but it seems equally clear that boys who complete the shortened secondary course proposed and subsequently benefit by suitable vocational training, would be more likely to secure industrial occupations and to make the most of industrial opportunities than are many of those who now graduate, or fail to graduate, at a comparatively advanced age. A desirable feature of the proposed reconstruction is that pupils would be relieved to some extent of the burden of frequent examinations, since each examination would take place at the termination of a particular stage of education and would have a clearly defined purpose, *i.e.*, to test whether pupils had attained the objective of that stage.

Central Advisory Board of Education and Bureau of Education in India.

It was stated in last year's report that as a preliminary step towards the revival of the Central Advisory Board of Education and Bureau of Education in India, the post of Educational Commissioner with the Government of India had been offered to and accepted by Sir George Anderson. The matter was further considered during the year under review and the Government of India came to the conclusion that the most valuable contribution they could make to the proper development of education in India was to provide a central

clearing house for ideas and a reservoir of information on the subject. They therefore decided to reconstitute the Board as soon as possible. The necessary funds were accordingly provided in the budget for 1935-36, and steps were taken to inaugurate the Board during that year. The question of attaching a Bureau of Education to the Board was, however, postponed as, in addition to financial considerations, it was thought advisable to ascertain the views of the Board on the matter first.

All three Universities for which the Government of India takes some measure of responsibility have further progress to report. This is encouraging, as it indicates that the lean years of economic depression are passing away and parents are able to patronise educational institutions more extensively.

Benares Hindu University.

The total number of students on the rolls of the Benares Hindu University was 3,711, as against 3,492 in the previous year. The steady increase mentioned in our last report was thus maintained and in order to cope with it, it became necessary to strengthen the teaching staff by making eleven new appointments. Donations during the year amounted to Rs. 1,20,877 and the University Library received a windfall of 5,725 volumes from a single source. On the academic side, the chief event was the decision to institute a Faculty of Technology with a view to co-ordinating and organising more effectively the various courses in technological subjects which have hitherto been under the Faculty of Science. Of the research and literary publications of the year mention should be made of Mr. Srinivas Chandra Roy Mahapatra's thesis "Mid-India under the Gahadavalas", which earned him the degree of Doctor of Letters. The University Training Corps again won the Efficiency Cup at the annual camp—the eighth time in succession—and also annexed the Inter-Platoon Efficiency Cup.

Aligarh Muslim University.

The Aligarh Muslim University had 1,241 students on its rolls during the academic year 1934-35—nearly 100 more than during the previous year. Staff and students alike did a useful year's work, the percentage of passes in examinations taken all round showing an improvement over the results of 1933-34. Notable among the happenings of the year were the visits of His Highness the Aga Khan, an *ex*-Pro-Chancellor, the Right Hon'ble Sir Tej Bahadur Sapru, P.C., Dr. A. L. Bowley, D.Sc., F.B.A., the famous statistician,

and Madame Halide Edib Hanum, the Turkish authoress. The University Training Corps won the Long Range Shooting Cup, the miniature Shooting Cup and Annual Firing Course Cup at the annual camp at Allahabad. A new gymnasium was constructed and certain improvements were effected in the grounds.

Delhi University.

Further progress was made with the proposal to develop the Delhi University into a federal University. An essential condition of the scheme adumbrated by the Government of India and accepted by the University is that the latter and its constituent colleges should be situated in close proximity to each other. A beginning was made towards the fulfilment of this requirement with the removal of the physics and chemistry laboratories to the University's new quarters, the old Viceregal Estate, parts of which were reconstructed and reconditioned in various ways. Other features of the scheme are that each constituent college should be entirely engaged in work of university standard, that each college should forego some part of its autonomy so as to contribute to, and share in, the life and management of the University as a whole, and that the actual teaching should, as far as possible, be provided by the colleges under the guidance of the University. These conditions postulate that teaching should ordinarily be provided by the constituent colleges working in close co-operation and that the federal University should supplement the instruction imparted by the colleges mainly in subjects which are beyond their normal scope or in which centralised teaching is advisable. Further, in view of the large number of Indian Universities, especially in the vicinity of the new capital, it should not be necessary for the Delhi University either to arrange for courses in a wide range of subjects or to provide facilities for higher studies and research in any but a few departments. After accepting the proposed reorganisation in principle, the University began to work out details to give effect to it, but were soon confronted with consequential problems of a radical nature and India-wide importance, which called for solution before further progress could be made. These relate to such matters as the length of the degree course and the reconstruction of secondary education, which have been dealt with in an earlier paragraph. These questions were taken into consideration by both the Government of India and the University and the latter were engaged in working out a scheme complete in all respects.

During the year under report there was a further rise in the number of students, namely, from 2,208 to 2,267, the number of women students included in the latter figure being 93.

CHAPTER VIII.

The Scientific Surveys.

Scope of Chapter.

Following precedent, the activities of the five Surveys of India—archæological, topographical, geological, botanical and zoological—are dealt with briefly in this final chapter.

The Archæological Survey.

Despite the restricted activities of the Archæological Department owing to limited funds, the year was not without important discoveries.

Kathiawar.

In the forefront of these was the unearthing of an ancient site at Rangpur village in the Limbdi State, Kathiawar, which yielded pottery similar to that of Mohenjodaro and Harappa. This establishes that the culture of the Indus valley extended to the Kathiawar Peninsula.

Mohenjo-daro. Harappa.

At Mohenjodaro, the main prehistoric city of the Indus valley, no further excavation was carried out, but a few trenches sunk at Harappa added to the collection of seals with pictographic writings, copper and pottery objects.

Taxila.

The only work in progress at Taxila was the clearing of the monastery attached to the Dharmarajika Stupa. It now transpires that, besides the buildings of the Gupta period excavated last year, at least two other monasteries of earlier periods are located here. They conform to the usual type, with rows of rooms ranged round a central court in which a small stupa is sometimes installed for worship. Among the antiquities discovered in the course of clearance was a stone relic casket containing a plain gold casket with bone relics along with precious stones. A silver coin of Azilises and another of the Roman Emperor Augustus found inside the stone casket show that these relics were deposited about the middle of the 1st century A. D.

Nalanda.

At Nalanda in Bihar the excavation of the well-known Buddhist University was continued and two more monasteries were excavated. The most interesting addition to the large collection of bronze images here was one representing the birth of Buddha, a subject which has not so far been met with in the Pala art of Nalanda. A miniature bronze stupa on a raised platform approached by steps at each cardinal point and a standard figure of a goddess holding a bow, not yet identified, are among the other interesting finds at Nalanda.

Bengal.

The systematic excavation of sites in Bengal during the last few years has thrown considerable light on the period preceding the Pala dynasty, of which nothing was known till recent years. Operations at Baigram in the Dinajpur district revealed the remains of a rectangular brick-built temple in the mound called "Sivamandap", in all probability representing the temple built by Sivanandin, as mentioned in a copper-plate, dated 447-448 A. D., discovered at the foot of the mound. Excavations in the vicinity of the city at Mahasthangarh in the Bogra district, which was the ancient Pundravardhana, brought to light the remains of a polygonal stupa or shrine with high brick walls on the outside, dating roughly from the 6th century A. D. This promises to be of interest when fully excavated. A trench sunk in a prominent mound at the site at Mahanad in the Hooghly district, from which a number of Gupta coins and other antiquities have been recovered in recent years, revealed a number of walls, which, judging from their width, appear to form part of an important structure, probably datable to the 5th century A. D.

Burma.

At the site of the old capital Hmawza (Old Prome), the only discovery was an inscribed stone slab similar in appearance to the hero stones of southern India. It bears on the top an image of a seated Buddha with a devotee on either side and a somewhat abrased inscription in 16 lines below. The record is apparently bilingual, with Pyu and Sanskrit in alternate lines, and the style of the characters leaves no doubt that it belongs to about the 5th century A. D., when the influence of Sanskrit was predominant in Old Prome.

Epigraphy.

The most important epigraphical discovery of the year was a stone inscription on a large slab built into the enclosure known as Hathibada at Nagari near Chitorgarh in the Udaipur State, which is identified with the ancient city of Madhyamika of the Sibi country. This inscription, written in the Brahmi script approximately of the 1st or 2nd century B. C., records the construction of a stone enclosure for the worship of Samkarshana and Vasudeva by Sarvatata of the Gajayana family, who had performed the horse sacrifice. Its importance lies in the fact that it establishes the prevalence of the worship of the Vishnuite deities at that early age and reveals the existence of a powerful ruler, Sarvatata, whose paramountcy is indicated by his performance of the horse sacrifice. A fragmentary

inscription found at Chitorgarh revealed the name of a new ruler, Manabhanga, who must have lived in the early part of the 8th century A. D. and seems identical with Mana of the Mori dynasty. The discovery of a copper-plate from Balasore in Orissa, dated in the 13th year of the reign of a king named Nayapaladeva, again brought the question of the Kamboja rulers of Bengal into prominence; while the examination and copying of stone inscriptions and copper-plate records in southern India added a new name, that of Yuyaraja Rajendravarman, to the genealogy of the Eastern Ganga dynasty.

Museum.

A large number of additions were made to the archæological section of the Indian Museum, Calcutta, the most remarkable being a collection of eight sculptures from north Bengal. One of these, representing the youthful God Kartikeya riding on a peacock, is among the most artistic examples of the Bengal school in the Pala period. Another is a rare representation of the Buddhist deity Samvara with three heads and twelve arms. Among other interesting acquisitions may be mentioned a copper celt from the Monghyr district (rather a rare example from eastern India) and three stucco heads of Buddha from the Khyber Pass.

Conservation.

Owing to paucity of funds, the conservation of monuments was strictly limited to small annual and really urgent repairs. Among these was rectification of the serious damage caused by the earthquake of January 1934 to several important monuments in the United Provinces and Bihar.

The Topographical Survey.

During the year ending 30th September 1934, the latest period for which information is available, the modern (*post*-1905) survey of approximately 42,200 square miles was completed. Of these 38,600 square miles represented original survey and 3,600 square miles, revision.

Special and Miscellaneous Surveys.

In addition to topographical survey work, cantonment and boundary surveys were carried out for other Government departments and Indian States. Three new base lines were measured and a line of high-precision levelling was carried from Keng Tung to the Siamese border. Other levelling was done in the areas affected by the earthquakes at Pegu in 1930 and in Bihar in 1934. While the former revealed no material change in height, the latter showed that a few benchmarks had sunk as much as 4 feet.

Air Survey. An interesting development of the Department's work was the method of surveying from oblique photographs so as to dispense with the visible horizon. By this method a map of 37 square miles of the north face of Nanga Parbat was prepared and supplied to the late Herr Willy Merkl, leader of the ill-fated German Nanga Parbat Expedition of 1934. The method was later applied to the Black Mountain area. Further, as forecasted last year, 1,386 square miles of a heavily wooded, low-lying portion of Tripura State were successfully surveyed by a combination of air and ground survey methods. The result compared favourably with the ordinary ground survey, showing a greatly increased outturn at considerably less cost per square mile.

Scientific Operations. There is nothing to record regarding scientific operations beyond the usual magnetic, seismographic and meteorological observations: bi-weekly time observations, checking of the longitude of Dehra Dun by means of wireless time signals from Bordeaux and Rugby and observations for latitude, longitude and the force of gravity.

Maps and Instruments. The Map Publication and Mathematical Instrument Offices continued their useful if unobtrusive operations, the value of instruments supplied and work done by the latter showing an increase over the previous year's figures.

The Geological Survey. During the year geological surveys were in progress in the Garo, Khasi and Jaintia and Mishimi Hills in Assam ; in the Midnapore district, Bengal ; in Mayurbhanj State and Manbhum and Singhbhum districts, Bihar and Orissa; in the Gujarat and Rewa Kantha States and the Panchmahal district, Bombay; in the Kyaukse, Mandalay and Myitkyina districts, Mogok Stone Tract, and Northern and Southern Shan States, Burma; in the Balaghat, Bhandara, Nagpur and Seoni districts, and Bastar State, Central Provinces; in Kashmir; in the Vizagapatam district, Madras; in the Trans-Indus Salt Range, North-West Frontier Province; in the Ambala, Hoshiarpur and Kangra districts, the Salt Range and the Punjab Hill States, Punjab.

Economic Enquiries. Economic enquiries were carried out on asbestos in the Manbhum district, Bihar and Orissa, on bauxite in Kashmir; on building materials in Bihar and Orissa, Bombay, Burma and the Punjab; on clays in Bengal, Bihar and Orissa, Bombay, Burma and the Punjab; on garnet in the Midnapore district, Bengal; on gemstones in the Myitkyina district and Mogok Stone Tract, Burma; on gold

in the Myitkyina district and the Southern Shan States, Burma, and in the Vizagapatam district, Madras; on iron-ore in Mayurbhanj State and Singhbhum district, Bihar and Orissa, and in the Vizagapatam district, Madras; on kyanite in Singhbhum, Bihar and Orissa; on lepidolite in Bastar State, Central Provinces; on ochres in Singhbhum, Bihar and Orissa; on oil seepages in Mianwali district, Punjab; and on soils suitable for sugar in Myitkyina district, Burma.

Special Investigations.

The most important special investigation of the year related to the damage caused by the Bihar earthquake of 1934. Four officers were put on special duty for this investigation and reports were submitted to the Governments of Bengal, Bihar and Orissa and Nepal. Of the remaining special investigations, mention need be made only of the question of applying vacuum to wells in the reserves of the Yenangyaung oilfield, Burma. Advice was also given to the Commissioner, Northern India Salt Revenue, concerning the future plan of work at the Mayo Salt Mine, Khewra, where a serious decline in output had occurred.

Among the year's publications, the most important were memoirs on the Lower Gondwana Coalfields of India, estimating available supplies of coal of various qualities and thus enabling the problem of conservation to be considered, and on the iron-ore deposits of Bihar and Orissa; and two papers, namely, " A Preliminary Account of the Earthquake of the 15th January 1934 " and " The Geological Foundations of the Soils in India ".

The Botanical Survey.

As has been the case since the retrenchments of 1932, the main activities of the Botanical Survey were confined to headquarters and the Museum. At headquarters, identification for correspondents showed an increase, while work in the herbarium comprised an examination of plants from the little explored area along the Baripada frontier tracts of the Aka Hills, Assam. In these collections several new or likely to be new species were isolated. A large number of specimens were distributed abroad, chiefly to America, China and Japan, and nearly 1,000 duplicates were given to the Pharmacological Department of the School of Tropical Medicine, Calcutta, to form the basis for a herbarium of medicinal plants. One activity of the Department that calls for special mention is connected with the revision of Hooker's " Flora of British India ". In recent years, the nomenclature of Indian

flowering plants has undergone considerable and drastic change; but while other works on the subject have, as far as possible, adopted the new nomenclature, Hooker's volume, the standard work, remains unaltered. To remedy this defect, Mr. Narayanaswami has been compiling a comprehensive list of revised names. He has also prepared a synoptical table of the families of Indian flowering plants of Hooker's "Flora" showing the changes they have undergone in recent years both in nomenclature and in taxonomic position.

Cinchona.

As there is to be no extension of cinchona plantations, work was confined to maintenance of the trees already planted and to the filling up of vacancies in areas already under cultivation. Suitable shade planting did much to prevent the effects that follow complete exposure of cinchona to the sun.

During the year 1,01,615.5 lbs. of bark were worked and produced 3,597 lbs. of quinine sulphate powder and 1,679 lbs. of cinchona febrifuge powder. Sales were quinine sulphate powder, 29,942 lbs.; quinine sulphate tablets, 2,342 lbs.; cinchona febrifuge powder, 1,926 lbs. and quinine reinforced cinchona tablets, 1,000 lbs. The receipts from these sales yielded an income of Rs. 6,08,781-5-0.

The development of the ipecacuanha industry progressed rapidly alongside cinchona. Many experiments on the cultural methods suitable for this plant were made and the growing demand for Emetine in India could now be met completely by home production.

The Zoological Survey.

Owing to the limited funds available, the field-work of the Zoological Survey was again seriously restricted, the major activities being the conservation, proper identification and re-arrangement of its very rich collections. A small amount of field work was, however, carried out on the ecology and bionomics of the animals inhabiting estuarine areas in the vicinity of Calcutta, hill-stream fauna in the east of the Himalayas around Darjeeling and a survey of a part of the Naga Hills.

On the research side, the more important papers published include: Notes on the Bionomics of *Trochus niloticus*; several monographs on the fish of various localities; further Observations on the Bionomics of the Early Stages of Torrential Lepidoptera from India, and Animal Remains from Sind.

Some new exhibits were put up in the public galleries of the Indian Museum; but the re-arrangement of the extensive Fish, Reptile, Bird and Mammal galleries is not possible till more funds are available. During the year a large number of animals were identified for various institutions and individuals from all over the country. It is encouraging to note that the number of such enquiries continued to increase.

APPENDIX.

Representative List of Official Reports, *etc.*

(Mostly annual.)

General.

Statistical Abstract for British India.

Census Report (decennial).

Provincial Administration Reports: Madras, Bombay, Bengal, United Provinces, Punjab, Central Provinces and Berar, Burma, Bihar and Orissa, Assam, North-West Frontier Province, Delhi, Coorg, Andaman and Nicobar Islands, Civil and Military Station of Bangalore, Ajmer-Merwara, Baluchistan Agency, Aden.

Report on the Administration of the Border of the North-West Frontier Province.

Agriculture and Veterinary.

Agriculture and Livestock in India (bimonthly).

Indian Journal of Agricultural Science (bimonthly).

Indian Journal of Veterinary Science and Animal Husbandry (quarterly).

Scientific Monographs of the Imperial Council of Agricultural Research (occasional).

Review of Agricultural Operations in India (biennial).

Annual Report of the Imperial Council of Agricultural Research.

Proceedings of the Board of Agriculture and Animal Husbandry.

Miscellaneous Bulletins of the Imperial Council of Agricultural Research (occasional).

Catalogue of Indian Insects (occasional).

Scientific Reports of the Imperial Institute of Agricultural Research.

Report of the Department of Agriculture for each province.

Season and Crop Report for each province.

Agricultural Statistics of India, Volumes I (British India) and II (Indian States).

Estimates of Area and Yield of Principal Crops in India.

Report of the Civil Veterinary Department for each province.

Report of the Imperial Institute of Veterinary Research, Muktesar.

Quinquennial Report on the average yield per acre of principal crops in India.

Review of the Sugar Industry of India (Supplement to the Indian Trade Journal).

Live-stock Statistics, India (quinquennial).

Co-operative Societies.

Statistical Statements relating to the Co-operative Movement in India.

Report on Co-operative Societies for each province.

Reports of Conferences of Registrars of Co-operative Societies.

Defence.

Administration Report of the Army Veterinary Service.

Administration Report of Government Military Dairy Farms.

Administration Report of Government Military Grass Farms.

Administration Report of the Indian Army Ordnance Corps.

Administration Report of the Royal Indian Navy including that of the Marine Survey of India.

Education.

Annual Reports on Education for India and for each province.

Quinquennial Reviews on the progress of education in India and in each province.

Occasional Reports and Pamphlets on education.

Annual Report on the work of the Education Department of the High Commissioner for India, London.

Annual Report on the working of the Imperial Library, Calcutta.

Emigration and Immigration.

Annual Report on the working of the Indian Emigration Act of 1922 and the Rules framed thereunder in the Presidency of Bengal.

Annual Report on the working of the Indian Emigration Act in the Bombay Presidency.

Annual Report on the working of the Indian Emigration Act and the Rules framed thereunder in the Madras Presidency.

Annual Report of the Agent-General for India in the Union of South Africa.

Annual Report of the Agent of the Government of India in British Malaya.

Annual Report of the Agent of the Government of India in Ceylon.

Annual Report on the working of the Tea Districts Emigrant Labour Act, XXII of 1932.

Finance.

Budget of the Government of India.

Finance and Revenue Accounts of the Government of India.

East India Accounts and Estimates : Explanatory Memorandum by the Secretary of State for India (Parliamentary Papers).

Home Accounts of the Government of India (Parliamentary Paper).

East India (Loans raised in England) (Half-yearly Parliamentary Paper).

Reports on the Administration of the Mints at Calcutta and Bombay, with a review by the Controller of the Currency.

Report of the Controller of the Currency.

Statistical Tables relating to Banks in India.

Report of the Public Accounts Committee on the Accounts of 1934-35.

Forests.

Annual Return of Statistics relating to Forest Administration in British India.

Report on Forest Administration for each province.

Forest Research in India, Part I—Forest Research Institute.

Forest Research in India, Part II—Provincial Reports.

Progress Report on the Forest College, Dehra Dun.

Quinquennial Forest Review.

Indian Forest Memoirs.

Indian Forest Records.

Forest Bulletins.

Justice and Police.

Report on the Administration of Civil Justice for each province.

Report on the Administration of Criminal Justice for each province.

Report on Jails for each province.

Report on Police for each province, and for Sind, and the cities of Bombay, Calcutta and Rangoon.

Land Revenue, etc.

Land Revenue Administration, Provincial Reports for Bengal, Bihar and Orissa, Assam, United Provinces, Bombay Presidency (including Sind), Punjab, Central Provinces and Berar, Burma, and Madras.

Report on Land Revenue Administration, Land Records, Settlement Operations, Alienation of Land Act, *etc.*, for the North-West Frontier Province.

Madras Survey, Settlement and Land Records Department Report.

Reports of Land Records Departments for Bombay, Burma, Bengal, United Provinces, and Punjab.

Report on Settlement Operations, Punjab.

Reports on Survey and Settlement Operations, Bengal, Bihar and Orissa, and Assam.

Reports on Operations of the Land Records and Settlement Departments, Central Provinces and Berar.

Report of the Talukdari Settlement Officer, Bombay.

Provincial Reports on the Administration of Estates under the Court of Wards.

Report on the Punjab Canal Colonies.

Legislation.

Acts of the Indian Legislature and Provincial Legislative Councils.

Regulations made by the Governor-General in Council.

Ordinances made by the Governor-General.

Official Accounts of the Debates and Proceedings in the Central and Provincial Legislatures.

Local Self-Government.

Report on Municipalities for each province and for Calcutta, Bombay City, Madras City and Rangoon.

Reports on District and Local Boards for each province.

Reports of Port Trusts of Bombay, Madras, Karachi and Aden.

Administration Reports of the Calcutta, Rangoon and Chittagong Port Commissioners.

Administration Report of Vizagapatam Port.

Administration Report of Cochin Port.

Medical, Public Health and Vital Statistics.

Report of the Public Health Commissioner with the Government of India.

Report of the Director of Public Health for each province.

Report on Civil Hospitals and Dispensaries for each province.

Report on Mental Hospitals for each province.

Report of the Chemical Examiner and Bacteriologist for each province.

Indian Journal of Medical Research (quarterly).

Indian Medical Research Memoirs (Supplementary Series to the Indian Journal of Medical Research) (periodical).

Records of the Malaria Survey of India issued by the Director, Malaria Survey of India.

Reports of the Scientific Advisory Board and the Governing Body, Indian Research Fund Association.

Report of each of the Pasteur Institutes at Calcutta, Coonoor, Kasauli, Patna, Rangoon and Shillong.

Report of the Central Research Institute, Kasauli, including the report of the Director, Malaria Survey of India.

Report of the Haffkine Institute, Bombay (biennial).

Report of the King Institute, Guindy.

Report of the Calcutta School of Tropical Medicine and Hygiene.

Report of the All-India Institute of Hygiene and Public Health, Calcutta.

Proceedings of the Conferences of Medical Research Workers.

Health Bulletins, Nos. 1—22.

Reports on the sessions of the Office International d'Hygiene Publique, Paris, by the delegates for the Government of India.

Reports on the sessions of the Health Committee of the League of Nations by the Public Health Commissioner with the Government of India.

Vital Statistical and epidemiological returns by the Public Health Commissioner with the Government of India (weekly).

Mineral Production and Inspection of Mines.

Review of Mineral Production (in Records of Geological Survey).

Report of the Chief Inspector of Mines.

Indian Coal Statistics.

Posts and Telegraphs.

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